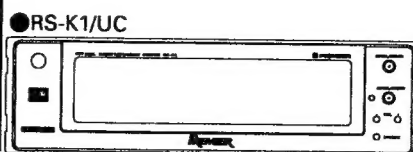


Service Manual

 **PIONEER**
The Art of Entertainment



ORDER NO.
CRT1533

OPTICAL DIGITAL REFERENCE SYSTEM
SYSTEM CONTROL TUNER/DECK

RS-K1 UC,EW,ES

NOTE:

- See the separate manual CX-156(CRT-468) for the cassette mechanism description.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
- This device employs an inverter as the power supply for EL. The inverter has an output voltage reach approximately 200 volts(AC). Utmost care should be used not to suffer from a possible electric shock, accordingly.
- In the circuitry of this model, the portions to which approximately 200V(AC) is applied are denoted by pink color.
- The cassette mechanism employed in this model is one of X-0RS series.

CONTENTS

1. SPECIFICATIONS	2	8. CASSETTE MECHANISM MODULE	
2. DISASSEMBLY	3	EXPLODED VIEW	87
3. ADJUSTMENT	6	9. EXPLODED VIEW(2)	90
4. ERROR NUMBERS AND		10. FREE SPACE REMOTE CONTROL	
NEW TEST MODE	11	EXPLODED VIEW	92
5. BLOCK DIAGRAM	31	11. PACKING METHOD	95
6. CIRCUIT DIAGRAM AND		12. ELECTRICAL PARTS LIST	99
P.C.BOARDS PATTERN	36	13. CIRCUIT DESCRIPTION	106
7. EXPLODED VIEW(1)	83	14. OPERATION AND CONNECTION	108

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O.Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway Markham, Ontario L3R 0P2 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY.LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL:[03]580-9911
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SAFETY INFORMATION(UC MODEL)

CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5). When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

1. SPECIFICATIONS

General

Power source 14.4 V DC (10.8 — 15.6 V allowable)
Grounding system Negative type
Max. current consumption 1 A
Fuse 4 A
Dimensions
 (chassis) 178 (W) × 50 (H) × 150 (D) mm
 (front face) 188 (W) × 58 (H) × 18 (D) mm
Weight (main unit) 1.8 kg
 (power source unit) 0.3 kg
 (SYSTEM COMMUNICATOR) 0.1 kg
Signal format
 (Sampling frequency) 44.1 kHz
 (Number of quantization bits) 18 bit linear
Digital output Optical output

Tape player

Tape Compact cassette tape (C-30 — C-90)
Tape speed 4.76cm/sec. (+0.14cm/sec., -0.05cm/sec.)
Fast forward/rewind time
 Approx. 100 sec. for C-60
Wow & flutter 0.05% (WRMS)
Frequency response
 Metal: 20 — 20,000 Hz (+3, -0 dB)
Stereo separation 50 dB
Signal-to-noise ratio
 Metal: Dolby C NR IN: 73 dB (IEC-A network)
 Dolby B NR IN: 67 dB (IEC-A network)
 Dolby NR OUT: 61 dB (IEC-A network)

FM tuner

Frequency range (UC, ES) 87.9 — 107.9 MHz
Frequency range (EW, ES) 87.5 — 108 MHz
Usable sensitivity 8 dBf (0.7 μV/75 Ω, mono)
50 dB quieting
 sensitivity 13 dBf (1.2 μV/75 Ω, mono)
Signal-to-noise ratio 70 dB (IEC-A network)
Distortion 0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response 30 — 15,000 Hz (± 3 dB)
Stereo separation 40 dB (at 65 dBf, 1 kHz)

MW tuner

Frequency range (UC, ES) 530 — 1,710 kHz
Frequency range (EW, ES) 531 — 1,602 kHz
Usable sensitivity 18 μV (25 dB) (S/N: 20 dB)
Selectivity 50 dB (± 9 kHz)

LW tuner (EW)

Frequency range 153 — 281 kHz
Usable sensitivity 30 μV (30 dB) (S/N: 20 dB)
Selectivity 50 dB (± 9 kHz)

AUX (External Input)

Frequency response 10 — 20,000 Hz (+0, -1 dB)
Distortion 0.005% (at 1 kHz, 1 V, 20 kHz, L.P.F.)
Signal-to-noise ratio
 90 dB (at 1 kHz, 1 V, 20 kHz, L.P.F.)
Separation 85 dB (at 1 kHz, 1 V, 20 kHz, L.P.F.)

2. DISASSEMBLY

●Removing the Case

- 1.Remove the two screws A and, then remove the two holders.
- 2.Remove the four screws B and, then remove the case.

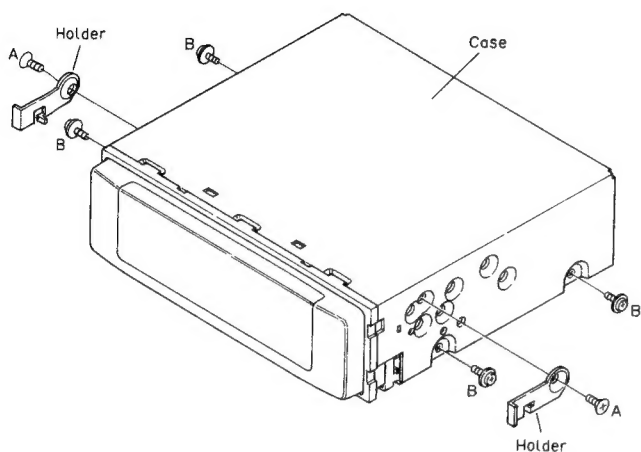


Fig.1

●Removing the Grille Panel Assy

- 1.Disconnect the three connectors.
- 2.Remove the two screws.
- 3.Disconnect the two stoppers indicated by arrows.
- 4.Remove the grille panel assy.

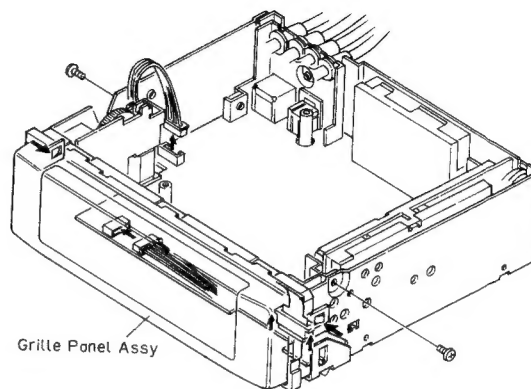


Fig.3

●Removing the Cassette Mechanism Module

- 1.Remove the four screws.
- 2.Disconnect the connector of deck unit.
- 3.Remove the cassette mechanism module.

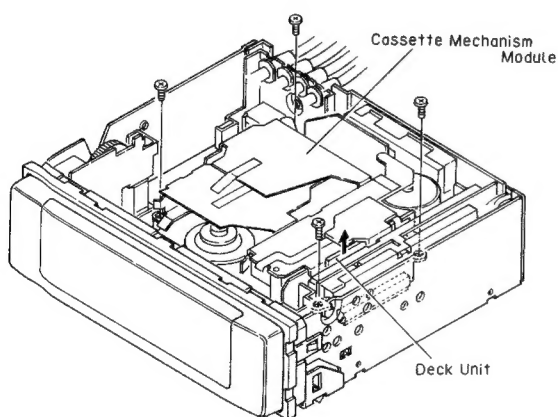


Fig.2

●Removing the Chassis Unit

- 1.Remove the screw C and three screws D.
- 2.Remove the solder.
- 3.Unbend the tabs at three locations indicated by arrows.
- 4.Remove the chassis unit.

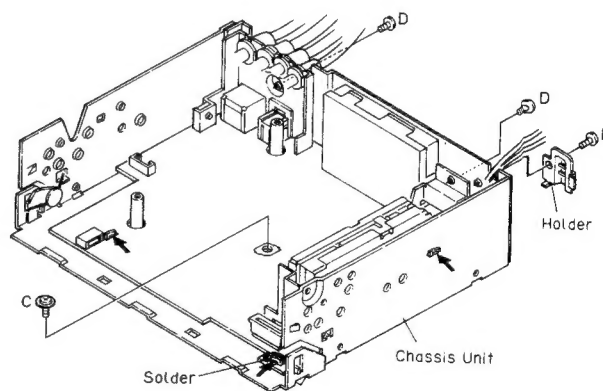


Fig.4

●Removing the Display Unit

- 1.While holding the tab of gear unit at locations indicated by black arrow.(Fig.5)
- 2.Press the display unit at locations indicated by white arrows.(Fig.5)
- 3.While holding down the lock button ,pull the display unit toward you.(Fig.6)

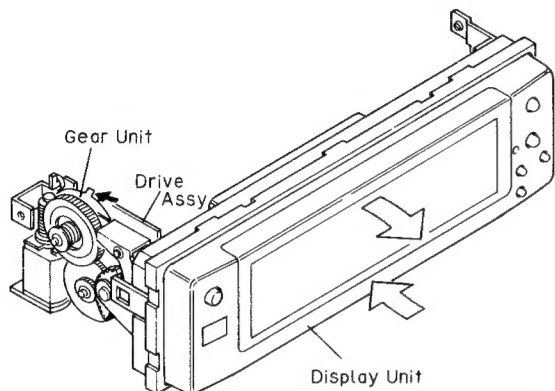


Fig.5

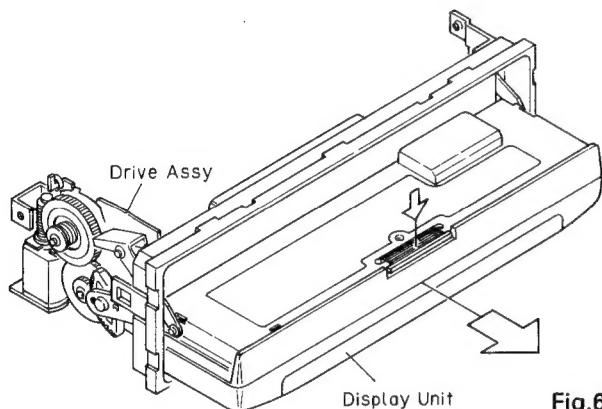


Fig.6

●Removing the Cover Unit

- 1.Remove the four screws.
- 2.Disconnect the four stoppers indicated by arrows.
- 3.Remove the cover unit.

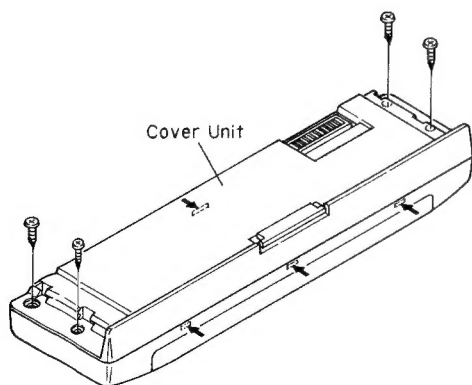


Fig.7

●Removing the Control P.C.Board

- 1.Disconnect the two connectors.
- 2.Remove the four screws.
- 3.Remove the solder, and then remove the control P.C.board.

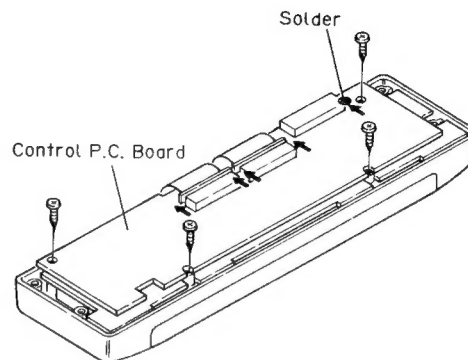


Fig.8

●Removing the Drive P.C.Board

- 1.Remove the three screws.
- 2.Remove the drive P.C.board.

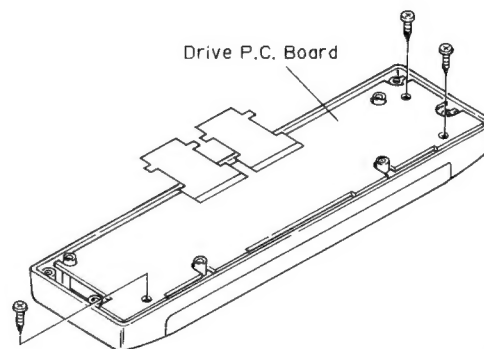


Fig.9

●Removing the EL

- 1.Remove the solder.
- 2.Unbend the tabs at six locations indicated by arrows.
- 3.Remove the holder.
- 4.Remove the EL.

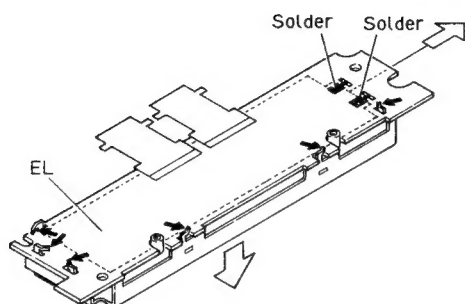


Fig.10

●Removing the Holder Unit

- 1.Remove the three washers.
- 2.Remove the screw, and then remove the holder unit.

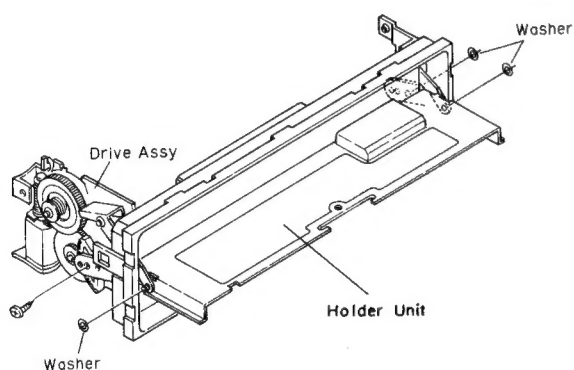


Fig.11

●Removing the Lower Case

- 1.Remove the battery cover, and then remove the batteries.
- 2.Remove the door unit.
- 3.Remove the two screws E and four screws F.
- 4.Disconnect the four stoppers indicated by arrows.
- 5.Remove the lower case.

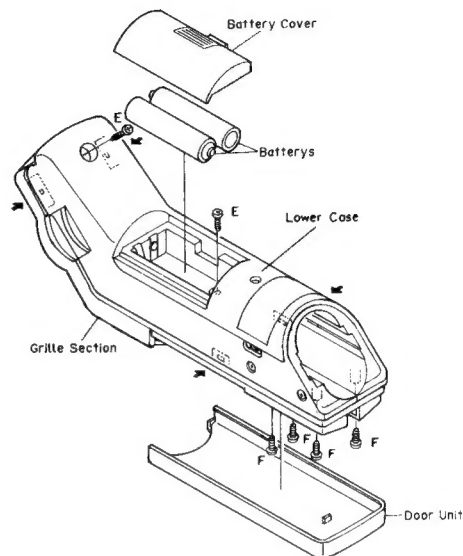


Fig.12

●Removing the Switch P.C.Board(A) and Main P.C.Board

- 1.Remove the four screws.
- 2.Disconnect the two connectors.
- 3.Remove the switch P.C.board(A) and main P.C.board.

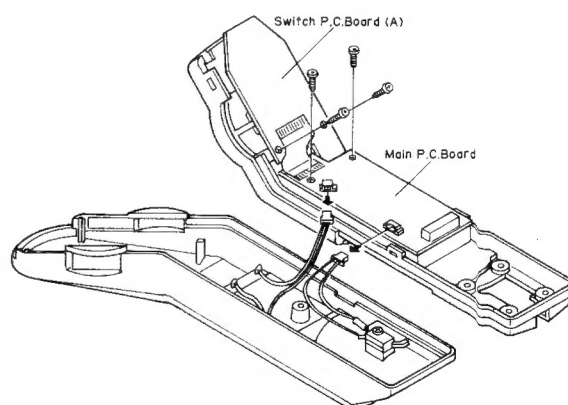


Fig.13

3. ADJUSTMENT

3.1 TEST MODE

Test mode is mainly used adjustment of ODR system CD multi player RS-M1.

- Switching to test mode

While pressing the OPEN/DETACH, SOURCE keys together, switch the back up ON or release the reset button.

- Canceling test mode

Press the CD multi-player reset button, and then the RS-K1 reset button. Or, switch the CD multi-player and RS-K1 back up OFF.

a) CD multi-player,

Key of Free Space Remote Control	Function
CHANGE/ESCAPE	Regulator ON/OFF
TRACK UP	FWD kick
TRACK DOWN	REV kick
F·3	Tracking close
F·2	Tracking open
F·6	Focus close
F·4	Focus open
F·5	Jump-Off
F·1	1/10/32 jump/carriage move switching

- SINGLE/10TRK/32TRK will continue to operate even after the key is released. Tracking closed the moment C-MOVE is released.



3.2 AUDIO/TUNER SECTION

NOTICE:

Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.

Z: Output impedance of SSG.

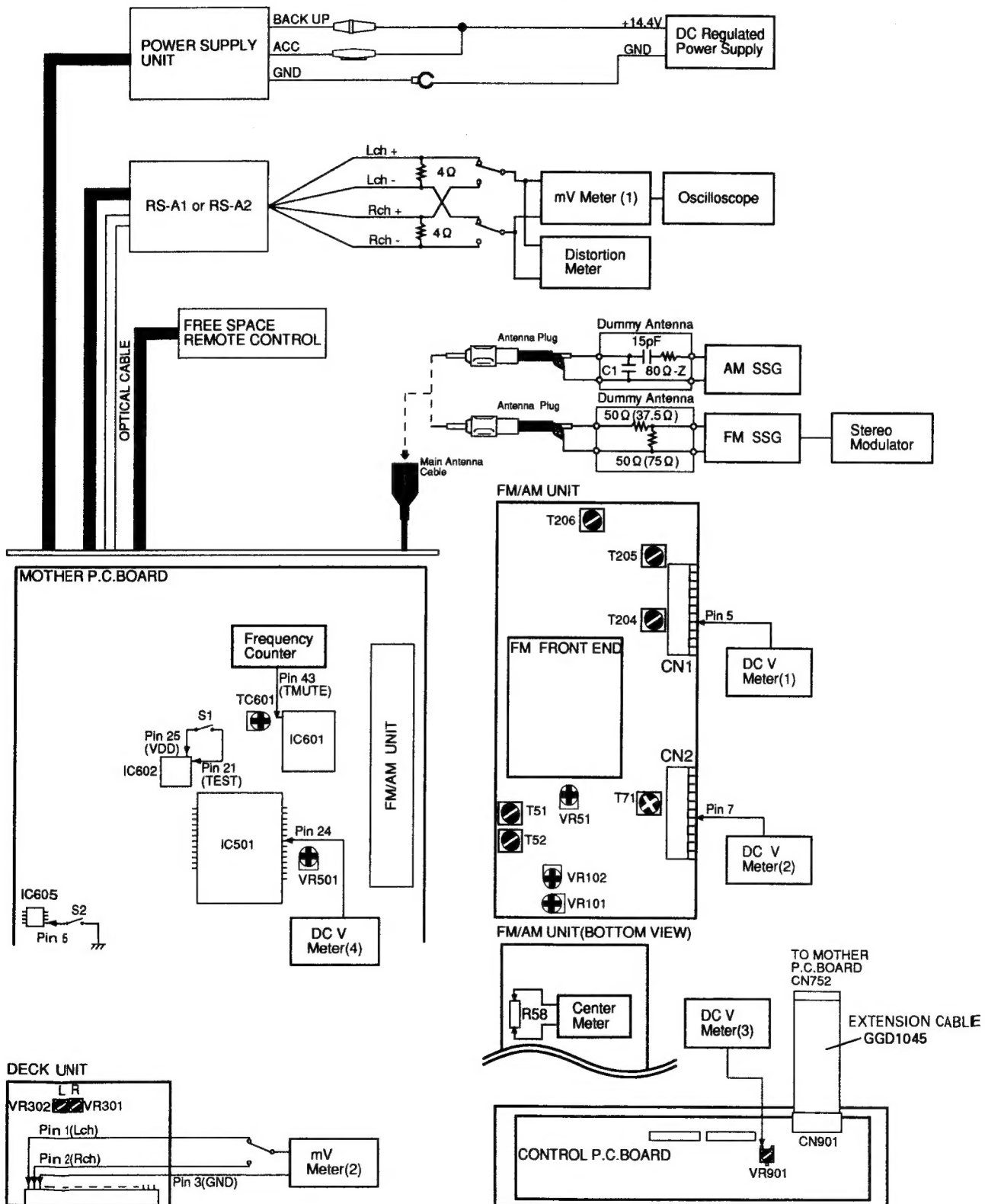


Fig. 14

AM ADJUSTMENT(EW,ES)

	No.	AM SSG(400Hz,30%)		Displayed Frequency(kHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(kHz)	Level(dB μ V)			
TUN Volt	1			1,629		DC V Meter(1) : Less than 6.5V
IF	1	999	15	999	T204,T205, T206	mV Meter(1) : Maximum

AM ADJUSTMENT(UC,ES)

	No.	AM SSG(400Hz,30%)		Displayed Frequency(kHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(kHz)	Level(dB μ V)			
TUN Volt	1			1,710		DC V Meter(1) : Less than 6.5V
IF	1	1,000	15	1,000	T204,T205, T206	mV Meter(1) : Maximum

FM ADJUSTMENT(EW)

Modulation M1:MONO MOD., 400Hz 30%(22.5kHz Dev.)
M2:MONO MOD., 400Hz 100%(75kHz Dev.)
S1:STEREO MOD., 1kHz, L or R=30%, Pilot=10%(20.25kHz+7.5kHz Dev.)
S2:STEREO MOD., 1kHz, L or R=90%, Pilot=10%(67.5kHz+7.5kHz Dev.)

	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
IF	1	98.0925-98.0975 M2	65	98.1	T51	Center Meter:0
Distortion	1	98.1 M2	65	98.1	T52	Distortion Meter : Minimum
IFT	1	98.1 S2	65	98.1	T71	Distortion Meter : Minimum
Max. Mute	1	98.1 M1	65	98.1		mV Meter(1) : A (AUTO ON)
	2	98.1 M1	$-\infty$	98.1	VR102	mV Meter(1) : A-19dB
ARC	1	98.1 S1	39	98.1	VR101	mV Meter(1) : Separation 5dB
SD	1	98.1 M1	23	98.1	VR51	DC V Meter(2) : Approx. 5V (SEEK:ON)

FM ADJUSTMENT(UC,ES)

Modulation M1:MONO MOD., 400Hz 30%(22.5kHz Dev.)
M2:MONO MOD., 400Hz 100%(75kHz Dev.)
S1:STEREO MOD., 1kHz, L or R=30%, Pilot=10%(20.25kHz+7.5kHz Dev.)

	No.	FM SSG		Displayed Frequency(MHz)	Adjustment Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
IF	1	98.0925-98.0975 M2	65	98.1	T51	Center Meter : 0
Distortion	1	98.1 M2	65	98.1	T52	Distortion Meter : Minimum
IFT	1	98.1 M2	13	98.1	T71	Oscilloscope : Optimum Symmetry
Max. Mute	1	98.1 M1	65	98.1		mV Meter(1) : A (AUTO ON)
	2	98.1 M1	$-\infty$	98.1	VR102	mV Meter(1) : A-19dB
ARC	1	98.1 S1	39	98.1	VR101	mV Meter(1) : Separation 5dB
SD	1	98.1 M1	23	98.1	VR51	DC V Meter(2) : Approx. 5V (SEEK:ON)

RDS SL ADJUSTMENT(EW)

	No.	FM SSG		Displayed Frequency(MHz)	Adjustment± Point	Adjustment Method (Switch Position)
		Frequency(MHz)	Level(dBf)			
	1	106.1 M2	52	106.1	VR501	mV Meter(4) : 2.3V±0.05V

DOLBY NR ADJUSTMENT

No.	Test Tape	Adjustment Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz,200nwb/m)	VR302(Lch),VR301(Rch)	mV Meter(2) : -8.24dBs-0.5dB +1.5dB (DOLBY NR Switch : OFF)

SYSTEM CLOCK ADJUSTMENT

No.	Adjustment Point	Adjustment Method (Switch Position)
1	Frequency Counter : 1.048576MHz±2Hz	TC601 (S1,S2 : ON)

LCD CONTRAST ADJUSTMENT

No.	Adjustment Point	Adjustment Method (Switch Position)
1	VR901	Best contrast

NOTE:

LCD contrast adjustment can be made by controlling the voltage with the DC V meter (3). However, as the voltage varies with temperature, rough adjustment should be made with referring to typical voltages shown in the table below, and finally the contrast should be adjusted to the optimum by visual sense.

Contrast Adjustment Voltage (Example)

Temperature(°C)	DC V Meter(3)
0	-11.79V
10	-11.49V
25	-11.36V

4. ERROR NUMBERS AND NEW TEST MODE

● Indicating An Error Number

If the CD should fail to operate in CD multi player or if an error has taken place during the operation and resulted in an error, the player will enter into the error mode. And the cause of such error is numerically indicated.

This is aimed at assisting an analysis or a repair.

(1) Basic Means of Display

· With ERROR indicated in "MODE" on IP-BUS Display date, an error code is transmitte by the use of MIN and SEC.

Identical date are transmitted with MIN and SEC.

· Examples of Head Unit Display ERROR XX

(2) Number of Error Codes

100 codes, ranging from 00 thought 99.

(3) Error Codes

Error Code	Classification	Description	Cause/Detail
10	ELECTRIC	Carriage home failure	Unmovable to and from the inner circumference → Home switch failed and/or carriage improper moved
11	ELECTRIC	Focus failure	Focus failed → Disk scarred or stained on the back or vibrating hard
12	ELECTRIC	SETUP failure	Spindle failed to lock or subcode extraordinary → Spindle defective, disk other than audio and ROM
14	ELECTRIC	Blank Disk	Unrecorded CD-R The disc has been in inserted upside down
30	ELECTRIC	Search time out	Target address failed to reach → Carriage/tracking improperly and/or disk scarred
A0	SYSTEM/ MECHANISM	Power failure	Power overvoltage or short circuit detected → Switching transistor defective and/or power abnormal
50	MECHANISM	An error upon ejection	MAG SW release time has time out Elevation time out when eject
60	MECHANISM	An error while putting in and out the tray	Tray in/out time has time out Tray is caught when put in
70	MECHANISM	An error upon elevation	Elevation time has time out
80	MECHANISM	An error with an empty magazine inserted	No disk is available

● New Test Mode(aging operation and setup analysis)

The CD multi player plays in normal mode. After being set up, it will display FOK (focus), LOCK (spindle), subcode, sound skip, protection against a mechanical error or the like, occurrence of an error, cause and time of an expiry, if any, (and disk number)

(1) How to Put in the NEW TEST Mode

See the test mode flow chart Page 7.

(2) Relations of keys between TEST and NEW TEST Modes

IP-BUS Commands	Keys	Test Mode		New Test Mode	
		Regulator OFF	Regulator ON	PLAY in progress	Error, Protection
15 00	CHANGE/ ESCAPE	Regulator ON	Regulator OFF	—	Cause of error selected
15 01	TRACK UP	—	FWD-KICK	TRACK UP/FF	—
15 02	TRACK DOWN	—	REV-KICK	TRACK DOWN /REV	—
15 03	F·3	—	TRACKING CLOSE	—	—
15 04	F·2	—	TRACKING OPEN	REPEAT MODE	—
15 05	F·6	—	FOCUS CLOSE	—	—
15 06	F·4 —	—	FOCUS OPEN	RANDOM	—
15 07	F·5 —	—	JUMP OFF	—	—
15 08	F·1	To New Test Mode	Jump-Mode Selected	AUTO/MANU	—

Operations, such as EJECT, CD ON/OFF, etc. are to be performed normally

(3) Error Cause (Error Number) Code

Error Code	Classification	Mode	Description	Cause/Detail
40	ELECTRIC	PLAY	FOK=L 100ms	Put out of focus
41	ELECTRIC	PLAY	LOCK=L 150ms	Spindle unlock
42	ELECTRIC	PLAY	Subcode unacceptable 500ms	Subcode fails to read
43	ELECTRIC	PLAY	Sound skipped	Last address memory operated

(4) Indicating an Operation Status During Setup

Status No.	Description	Protection operation
01	Carriage home mode started	None
02	Carriage moving on the internal circumference	10-second time out
03	Carriage moving on the external circumference	10-second time out
11	Setup started	None
12	Spindle turn/Focus search started	None
13	Waiting for focus closing	Failure to focus closing
14	Spindle kicked and focus checked	Out of focus
15	Tracking closed and focus checked	Out of focus
17	Carriage closed and focus checked	Out of focus
18	Lock waiting Subcode waiting	Failure to lock, subcode failed to read Out of focus
19	End	None

●ICs

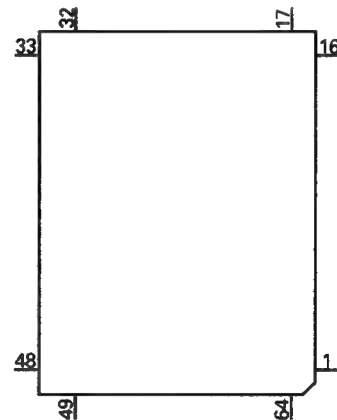
●Pin Functions (PD4448A)

Pin No.	Pin Name	I/O	Output Format	Function and Operation
1-25	NC			Not used
26	VSS			GND
27	SW1	I		Wireless/Wired select input
28	KINH	O	C	Key input inhibit output
29	KDT	O	C	Key data wired output
30,31	NC			Not used
32-35	KD0-KD3	I		Key data input
36-42	KST0-6	O	N	Key strobe output
43,44	NC			Not used
45	REMOUT	O	C	Remote control output
46	VDD			Power supply
47	XIN	I		Crystal oscillating element connection pin
48	XOUT	O		Crystal oscillating element connection pin
49	RESET	I		Reset input
50	WDOUT	O	N	Watch dog timer output
51-57	NC			Not used
58	VSS			GND
59-64	NC			Not used

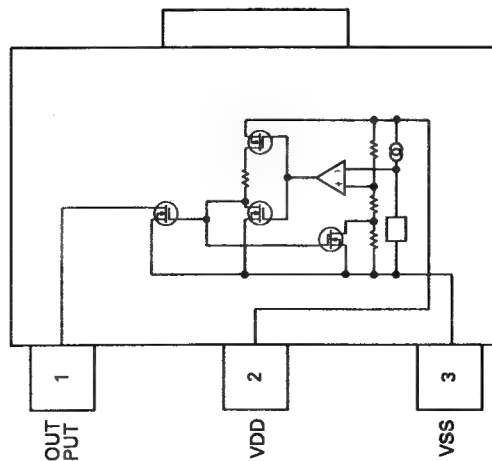
Output Format	Meaning
C	CMOS
N	N channel open drain

* PD4448A

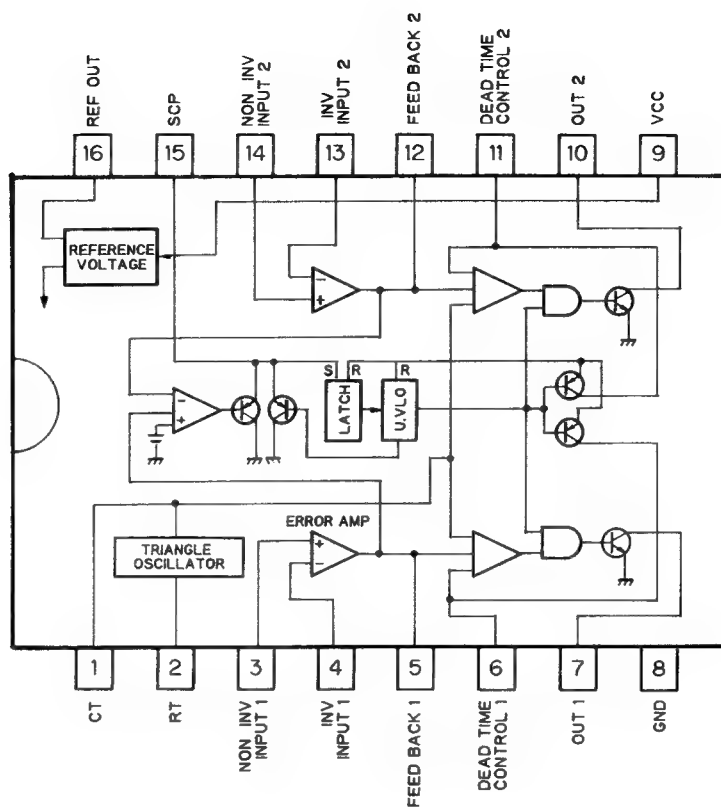
IC's marked by * are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.



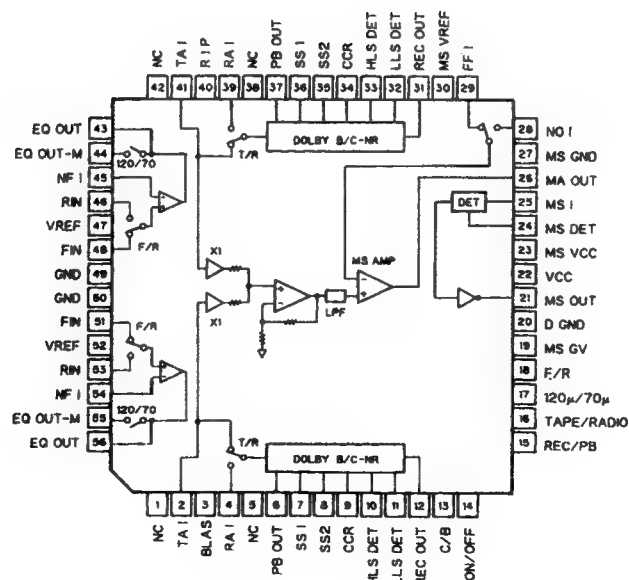
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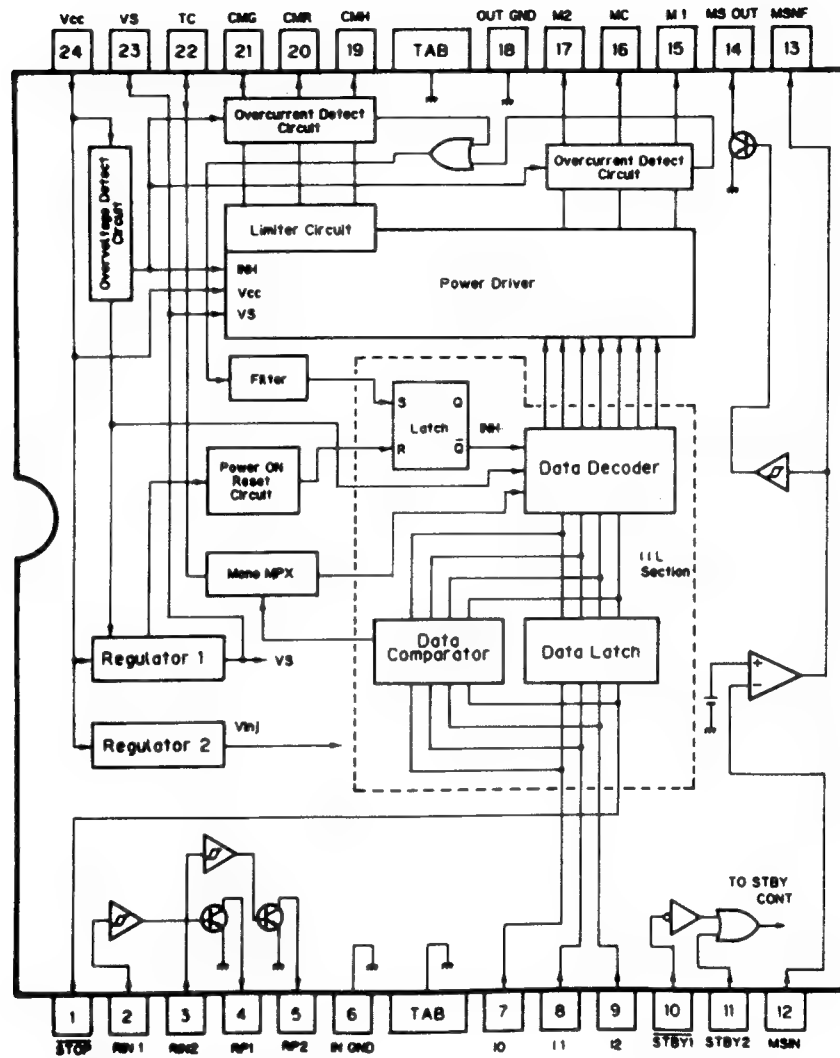
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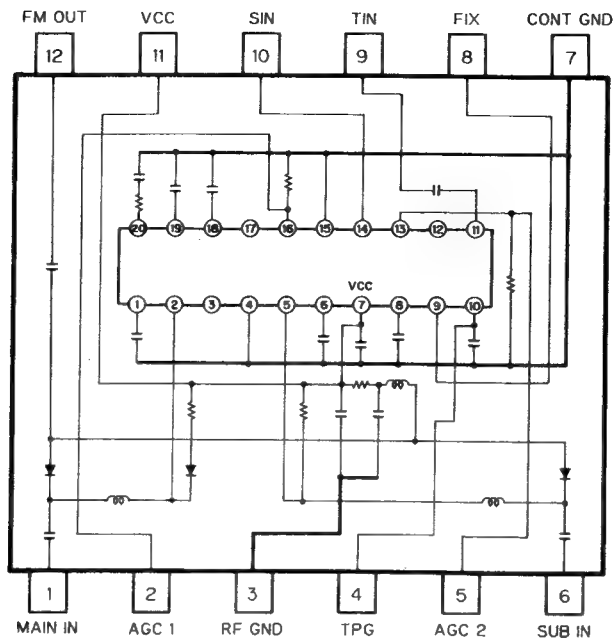
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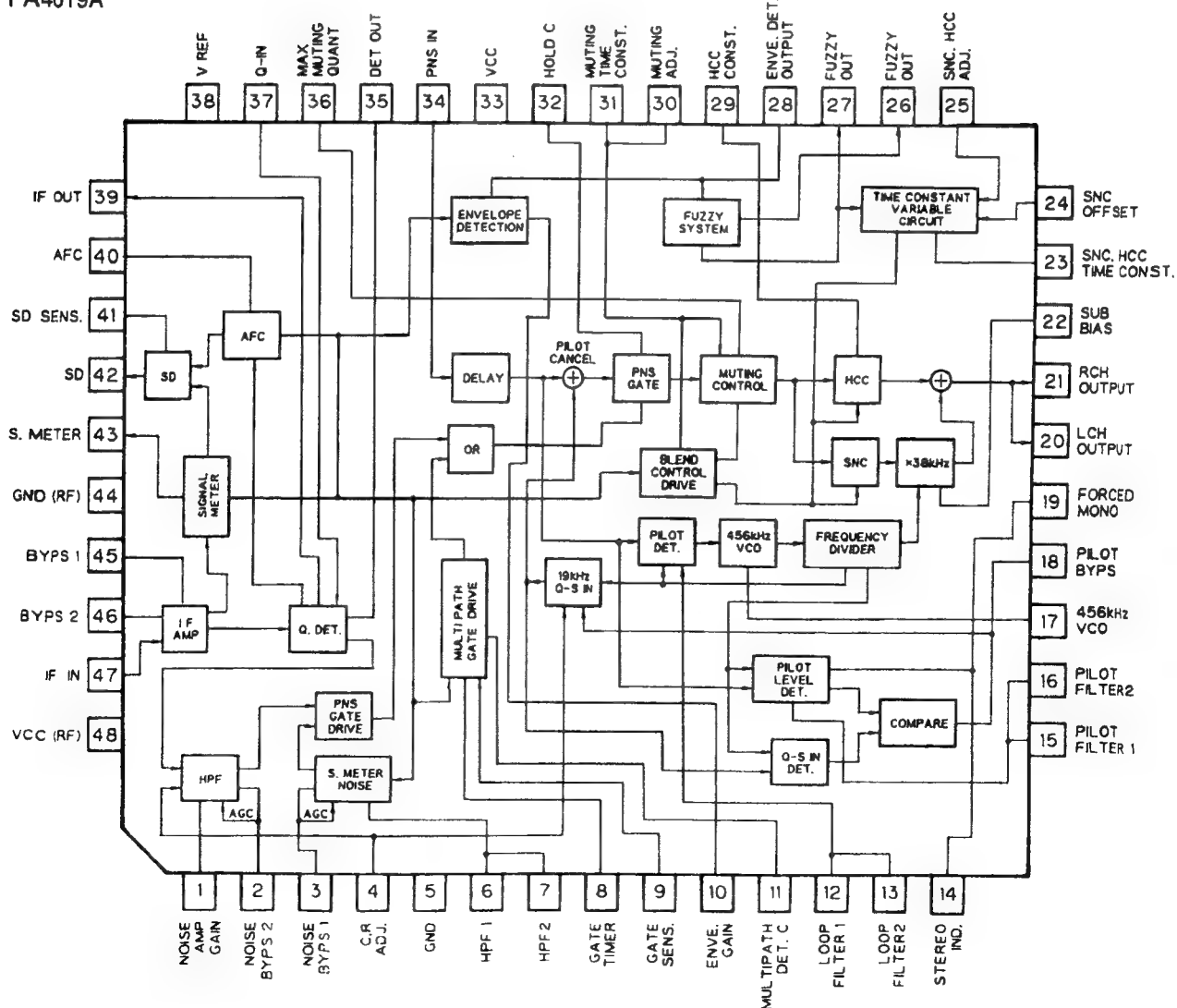
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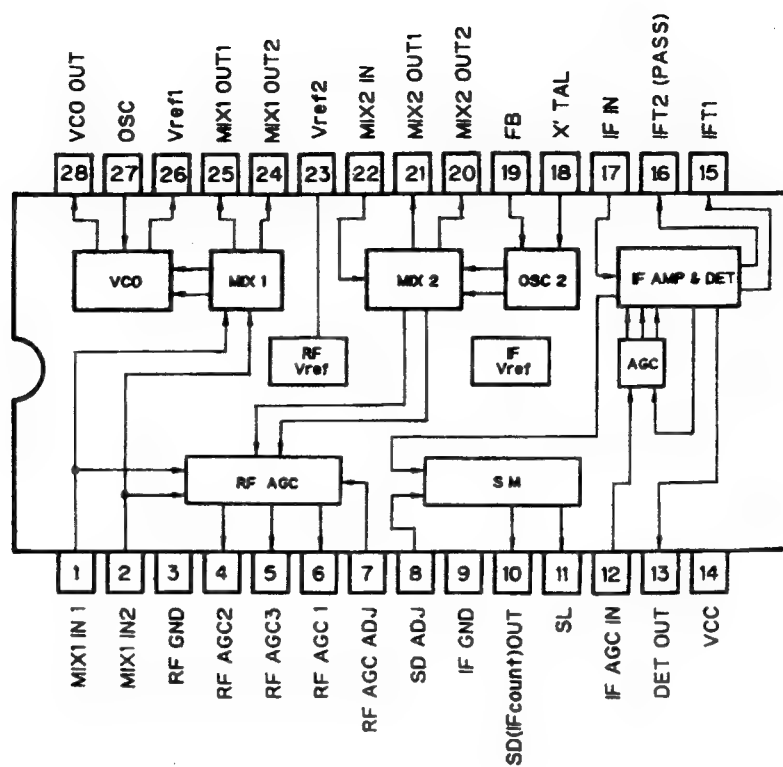
KHA273B



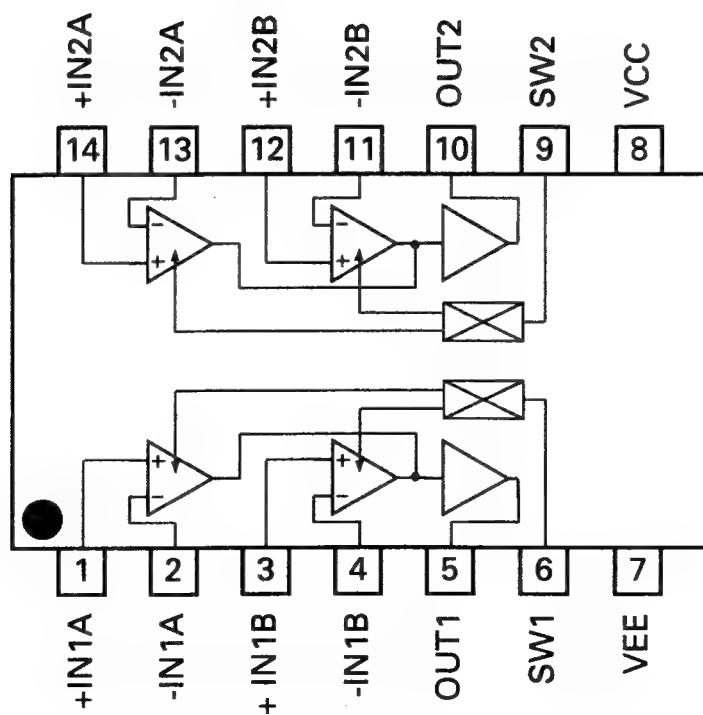
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BAF001A



BA3129F



●Pin Functions (PD4437A)

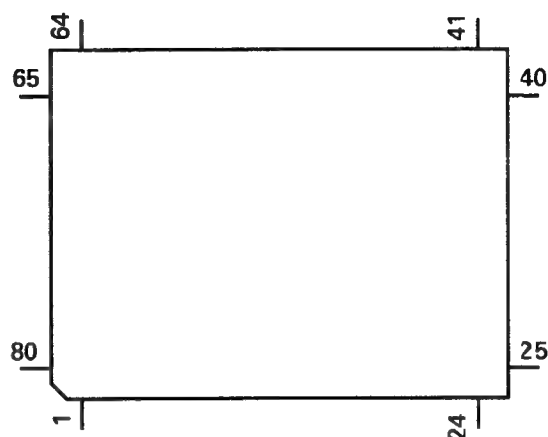
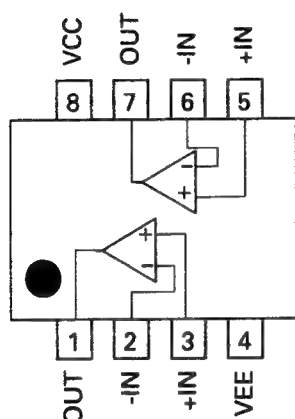
Pin No.	Pin Name	I/O	Output Format	Function and Operation
1	SL	I		SD level input for tuner
2	AVREF	I		A/D converter reference voltage
3,4	VDD			Positive power supply terminal for logic circuit
5	CM	O	C	Cassette mechanism capstan motor control output
6-8	MST2-0	O	C	Mechanism switch strobe output
9	STBY1	O	C	Mechanism driver stand by control
10-12	I2-I0	O	C	Motor driver control output
13	PLAY	O	C	Tape MS filter select output
14	DMUTE	O	C	Deck mute output
15	MUTE	O	C	Mute output
16	RDSSEL	O	C	Select output for RDS IC
17	IPIN	I		Data input from IP BUS interface IC
18	IPOUT	O	C	Data output for IP BUS interface IC
19	IPSCK	O	C	Serial clock output for IP BUS interface IC
20	PEE	O	C	Beep tone output
21	FR	O	C	Head forward/reverse select output
22	WDP	O	C	Watch dog pulse output
23	SYSPW	O	C	System power supply control output
24	IPPW	O	C	Power supply control output for IP BUS interface IC
25	IPRW	O	C	Read / write output for IP BUS interface IC
26	IPRST	O	C	Reset output for IP BUS interface IC
27	IPCS	O	C	Chip select output for IP BUS interface IC
28	IPCD	O	C	Command/data output for IP BUS interface IC
29-32	D7-D4	I/O	NM	Extension I/O data input/output
33	GND			GND
34-37	D3-D0	I/O	NM	Extension IO/RDS data input/output
38-40	CS0-CS2	O	C	Extension IO chip select output
41	BRXEN	I/O	C	Reception enable input/output for display control IC
42	PCE	O	C	Chip enable output for PLL IC
43	TMUTE	O	C	Tuner mute output
44	RDSRST	O	C	Reset output for RDS IC
45	PDO	O	C	Data output for PLL IC
46	PDI	I		Data input from PLL IC
47	MS	I		Cassette mechanism MS sense input
48	IPIRQ	I		Interrupt input from IP BUS interface IC
49	REMIN	I		Remote control signal input
50	NC			Not used
51	SUBDAT	I/O	C	Serial data input/output for extension I/O IC
52	SUBSCK	I/O	C	Serial clock input / output for extension I/O IC
53	ABSENS	I		ACC/BACK UP power supply shut down sense input
54	GND			GND
55	XT1			Not used
56	XT2			Not used
57	GND			GND
58	X1			Crystal oscillator connection pin
59	X2			Crystal oscillator connection pin
60	RESET	I		Reset input
61	RD	O	NM	Extension IO / RAM read signal output
62	WR	O	NM	Extension IO / write signal output
63,64	XT1,XT0	O	NM	Extension I/O select output
65	ANTFIX	O	NM	Tuner diversity fix select output
66	RDSEN	O	NM	Enable output for RDS IC
67	PCK	O	C	Serial clock output for PLL IC
68	RDSCK	O	C	Serial clock output for RDS IC
69	RDSRDY	I		Ready input from RDS IC
70	SD	I		SD input
71	NES	I		Cassette mechanism forward end sense input
72	RES	I		Cassette mechanism reverse end sense input

Pin No.	Pin Name	I/O	Output Format	Function and Operation
73	GND			GND
74-77	MD0-MD3	I		Cassette mechanism strobe input
78,79	NC			Not used
80	RDSSENS	I		Remote control detach sense input

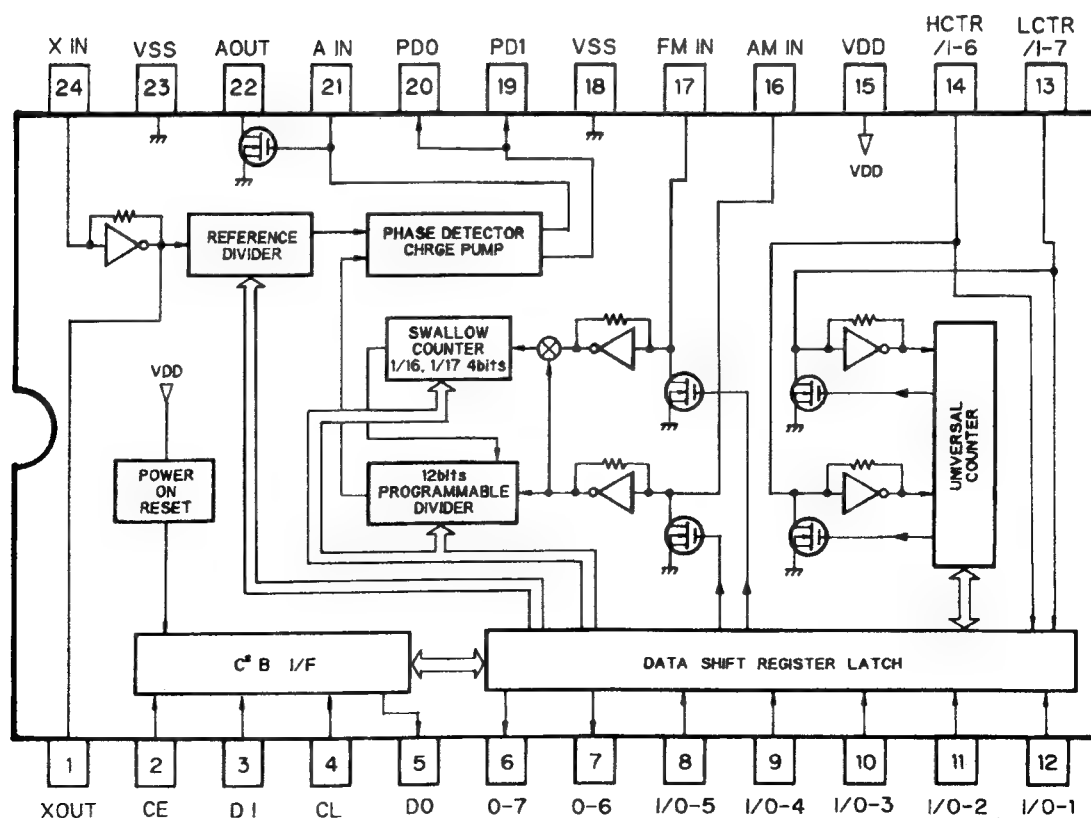
Output Format	Meaning
C	CMOS
NM	Middle resistivity N channel open drain

*PD4437A

NJM4558M



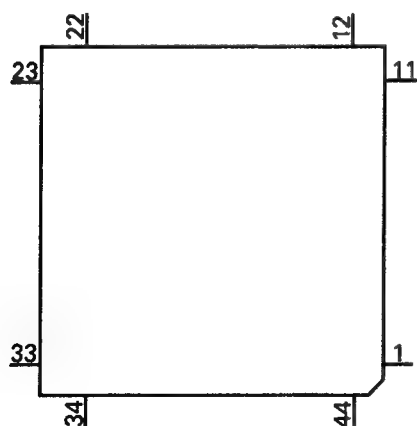
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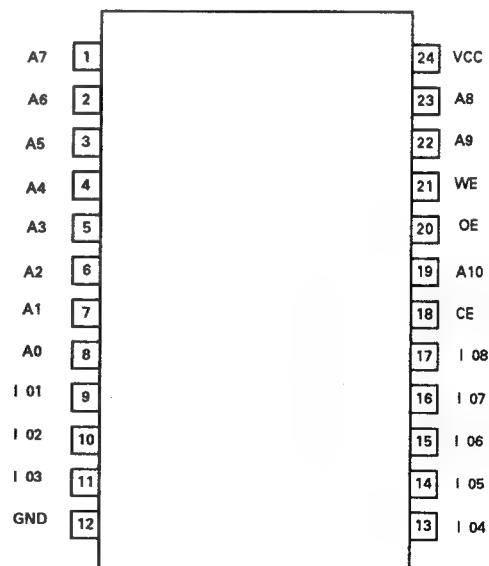
●Pin Functions (IC602:MSM82C55A-2GS)

Pin No.	Pin Name	I/O	Output Format	Function and Operation
1	CS1	I		Extension I/O chip select input
2	GND			GND
3,4	XA1,XA0	I		Extension I/O address input
5	SUBVDD	I		Extension I/O power control input
6	IPSWDB	O	C	Switched +B output for IP BUS
7	LCDPW	O	C	LCD power supply control output
8	RDTSW	O	C	Remote control regulator switching output
9	TUNANT	O	C	Auto antenna output
10	AXMUTE	O	C	AUX mute output
11	TUNPW	O	C	Tuner power control output
12	NC			Not used
13	TXRST	O	C	Not used
14	CLOSE	I		CLOSE key input
15	ILMIN	I		Illumination power sense input
16	LIMIT	I		Limit sense of analog audio signal
17	VDD			Power supply
18,19	MODEL0,1	I		Model select input
20	BCHK	I		BACK UP voltage check input
21	TEST	I		Test terminal
22	NC			Not used
23	TESTIN	I		Test program mode input
24	VDD			Power supply
25-32	D7-D0	I/O	C	External data input/output
33	RESET	I		Reset Input
34	WR	I		Write signal input
35	FSENS	I		Door sense input from free space remote control
36	TELIN	I		Telephone mute input
37	DSENS	I		Grille detach sense
38	BSENS	I		Back up power sense input
39	VDD			Power supply
40	ASENS	I		ACC power sense input
41	WDP	I		Watch dog pulse input
42	OSENS	I		Flap open sense input
43	CSENS	I		Flap close sense input
44	RD	I		Read signal input

MSM82C55A-2GS



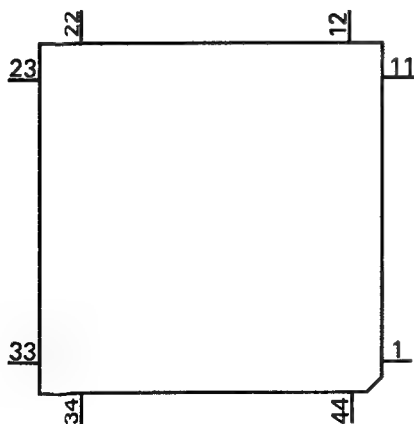
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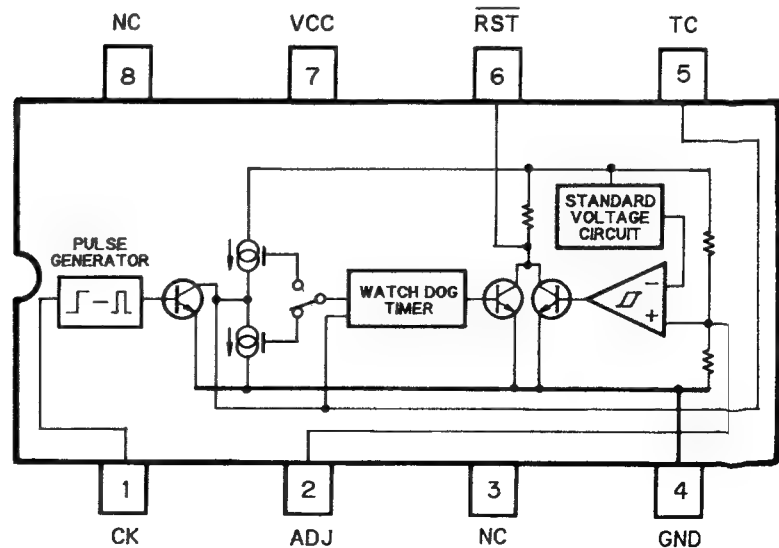
● Pin Functions (IC603:MSM82C55A-2GS)

Pin No.	Pin Name	I/O	Output Format	Function and Operation
1	CS0	I		Extension I/O chip select input
2	GND			GND
3,4	XA1,XA0	I		Extension I/O address input
5	BRST	O	C	Reset output extension I/O IC
6	FLPILM	O	C	Inside of flap illumination output
7	DPD	O	C	A/D converter offset calibration output
8	FLPPW	O	C	Flap motor driver power ON/OFF output
9	FLPOPEN	O	C	Flap motor open output
10	FLPCLS	O	C	Flap motor close output
11	ILMPW	O	C	Illumination power supply control output
12	NC			Not used
13	AVREF	I		A/D converter reference voltage
14-16	A8-A10	O	C	Extension RAM address output
17	VDD			Power supply
18	NC			Not used
19	METAL	O	C	METAL output
20	NR	O	C	Dolby NR ON/OFF select output
21	DLBYBC	O	NH	Dolby NR B/C select output
22	NC			Not used
23	MONO	O	NM	Forced mono output
24	VDD			Power supply
25-32	D7-D0	I/O	C	External data input/output
33	RESET	I		Reset input
34	WR	I		Write signal input
35-38	A7-A4	O	C	Extension RAM address output
39	VDD			Power supply
40-43	A3-A0	O	C	Extension RAM address output
44	RD	I		Read signal input

MSM82C55A-2GS



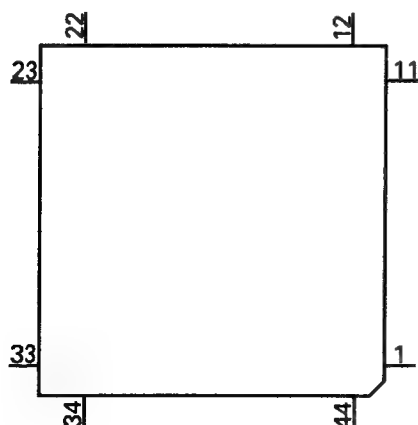
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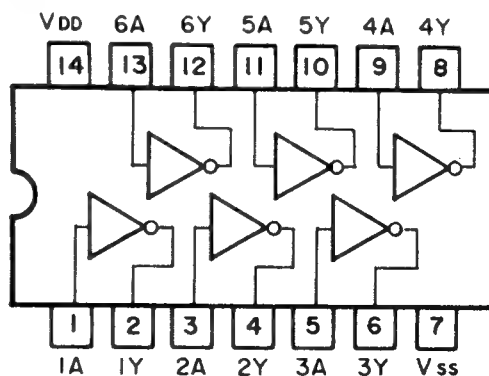
●Pin Functions (M51581FP)

Pin No.	Pin Name	I/O	Function and Operation
1	TX	O	Digital audio interface format output
2	RESET	I	Reset input
3	RX1	I	Digital audio data input 1
4	NFR	O	RX1 level converter output
5	RX2	I	Digital audio data input 2
6	RXSEL	I	RX select input
7,8	PD1,PD2	O	Phase comparative output for charge pump VCO
9	UNLOCK	O	Unlock detect output
10	RXCKI	I	VCO clock input
11	RXCKO	O	VCO clock output
12	SDI	I	Serial audio data input
13	BCK	I/O	Digital audio bit clock input/output
14	LRCK	I/O	Audio data word select input/output
15	SDO	O	Serial audio data output
16	ADSDI	I	A/D converter serial audio data input
17	VSS		GND
18	ADSEL	I	Serial data audio source select input
19	FLAGI	I	Error flag input
20	FLAGO	O	Error flag output
21	WCK	O	Word clock output
22	ASL	I	Audio data sampling length select input "H":24 bits "L":16 bits
23	IIS	I	Audio data format select input
24	MSBF	I	MSB select input
25	LRCKPOL	I	LRCK pole select input "H":Lch "L":Rch
26	MSTCK	I/O	Master clock input/output
27	CKSEL	I	Master clock frequency select input
28	REFCK	I	Reference clock input for sampling frequency accurate check
29	CKACO	O	Sampling frequency accurate check output
30	MUTE	I	Mute control input
31,32	MODE0-1	I	Mode select input
33	IN/OUT	I	Transmission reception select input
34,35	CAT0,1	I/O	Category information input/output
36	TXOE	I	TX output enable input
37	FSINSEL	I	fs information select input
38	VDD		Power supply
39	VSS		GND
40	TYPE	I/O	Type information input/output
41,42	FS0-FS1	I/O	fs information input/output
43	COPY	I/O	Copy information input/output
44	EMP	I/O	Emphasis information input/output

M51581FP



TC74HCU04AF

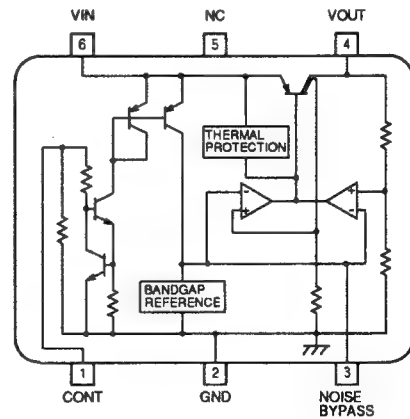
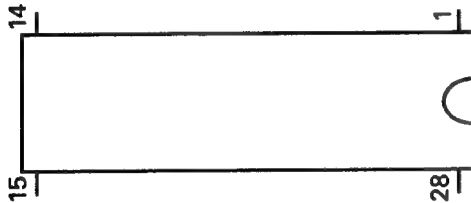


●Pin Functions (AK5369-VS)

Pin No.	Pin Name	I/O	Function and Operation
1	AGND		Analog circuit GND
2	AINL	I	Lch analog input
3	ZEROL	I	Lch zero level input
4	VA+		Analog positive power supply terminal +5V
5	VA-		Analog negative power supply terminal -5V
6	APD	I	Analog power down input
7	ACAL	I	Analog calibration input
8	NC		Not used
9	DCAL	O	Digital calibration output
10	DPD	I	Digital power down input
11	TEST	I	Test terminal
12	CMODE	I	Master clock select input
13	SMODE	I	Interface clock select input
14	L/R	I/O	Channel select input/output
15	BCK	I/O	Serial data clock input/output
16	SDATA	O	Serial data output
17	FSYNC	I/O	Flame synchronizing clock input/output
18	VD+		Digital power supply +5V
19	DGND		Digital circuit GND
20	CLK	I	Master clock input
21	OCLK	O	128fs clock output
22	NC		Not used
23	ICLK	I	128fs clock input
24	LGND		Analog logic ground terminal
25	VL+		Analog logic power supply +5V
26	ZEROR	I	Rch zero level input
27	AINR	I	Rch analog input
28	VREF	I	A/D converter reference voltage input

AK5369-VS

TK11235



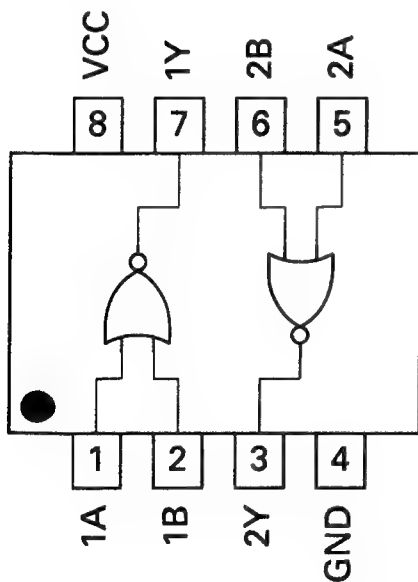
●Pin Functions (XRA6288FS)

Pin No.	Pin Name	I/O	Function and Operation
1	GND		GND
2	NC		Not used
3	OUT1		Motor output terminal
4	VM	O	Motor power supply terminal
5	VCC		Power supply terminal
6	FIN	I	Logic input
7-10	NC		Not used
11	RIN	I	Logic input
12	VREF	I	Output high voltage set up
13	NC		Not used
14	OUT2	O	Motor output terminal
15	NC		Not used
16	RNF		Output GND

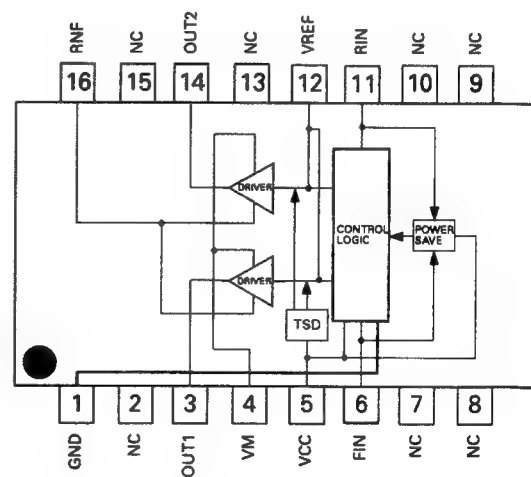
●Truth Table

FIN	RIN	OUT1	OUT2	Mode
H	L	H	L	Forward Mode
L	H	L	H	Reverse Mode
H	H	L	L	Brake Mode
L	L	OPEN	OPEN	Stand-by Mode

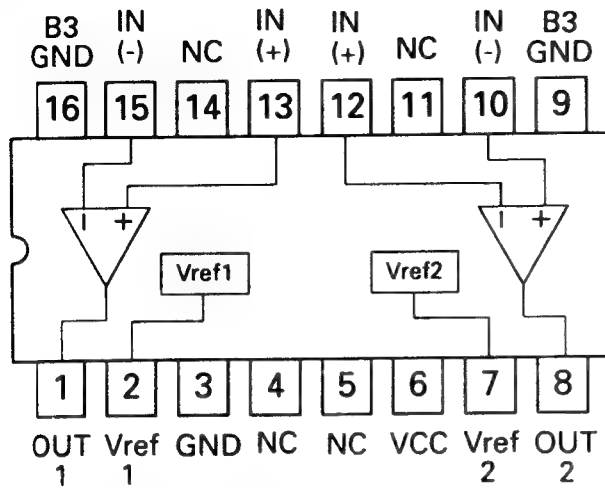
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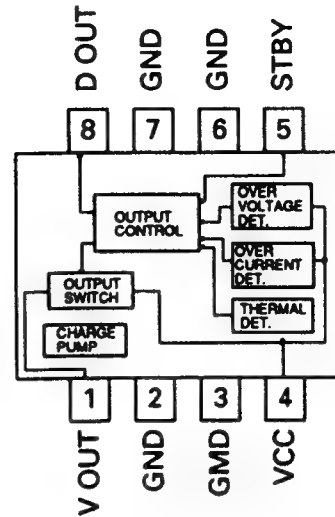
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TA8181F



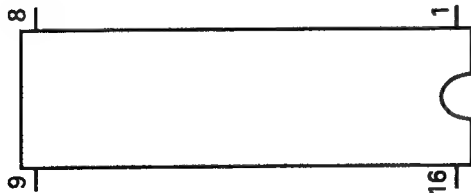
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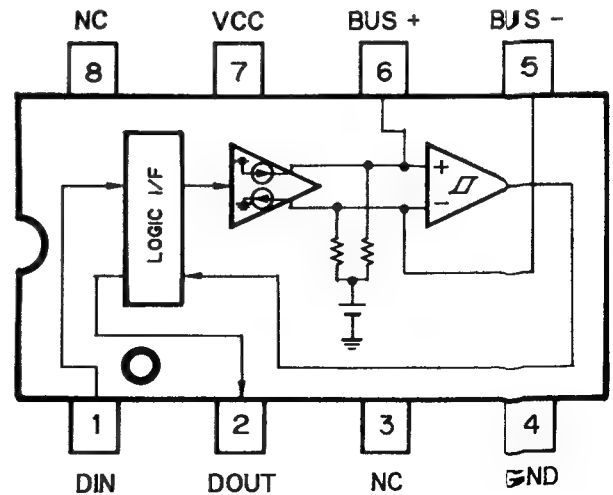
●Pin Functions (PD4308AM)

Pin No.	Pin Name	I/O	Function and Operation
1	APCSK	I/O	Clock input/output
2	APSI	I	Data input
3	APSO	O	Data output
4	APIRQ	O	Interrupt output
5	APRW	I	Read/write select input
6	XI		Oscillating element connection pin
7	XO		Oscillating element connection pin
8	GND		GND
9	RX	I	Data input
10	TX	O	Data output
11	NC		Not used
12	APCD	I	Command/Data select input
13	APCS	I	Chip select input
14	APRST	I	Reset input
15	VDD		Power supply terminal
16	VDD		Power supply terminal

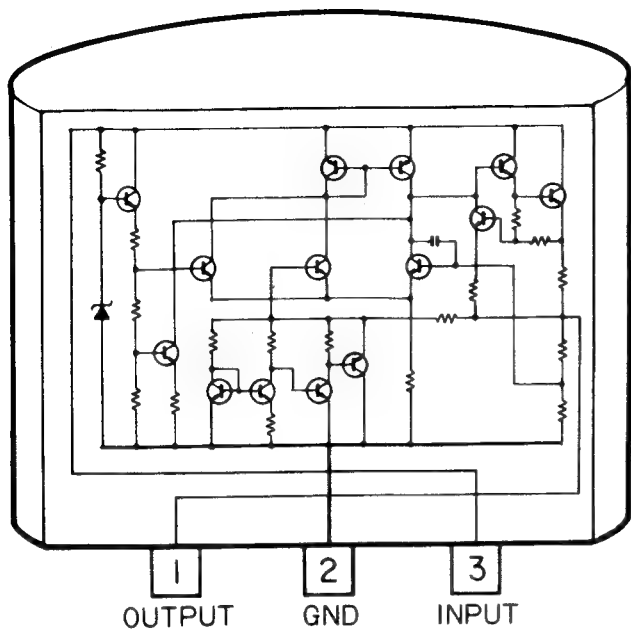
*PD4308AM



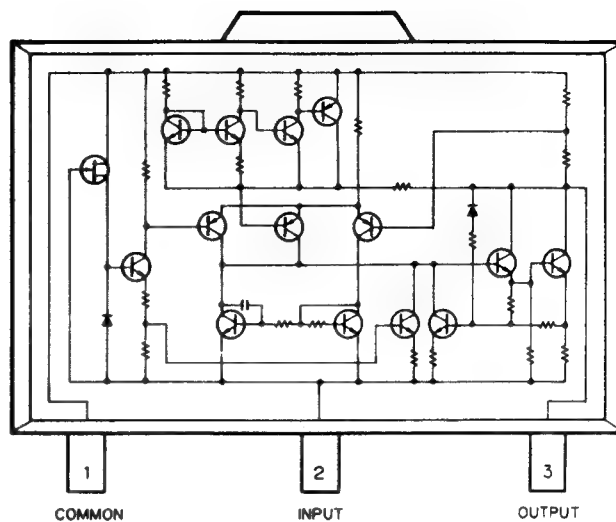
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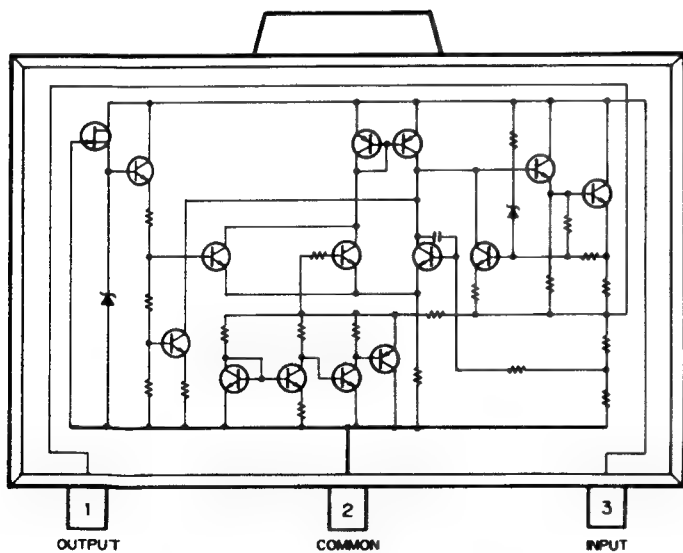
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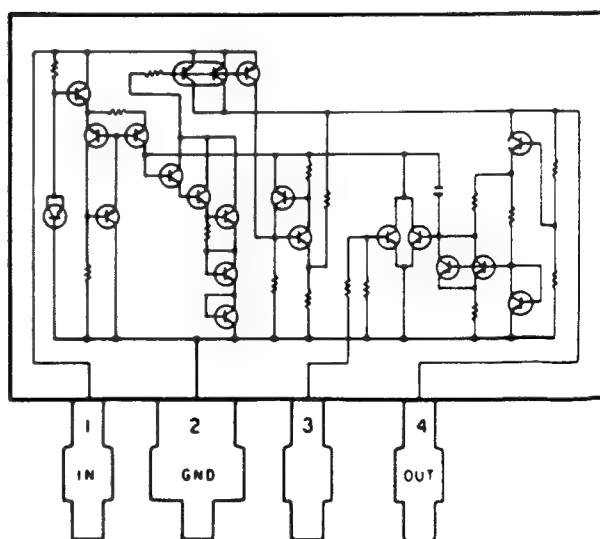
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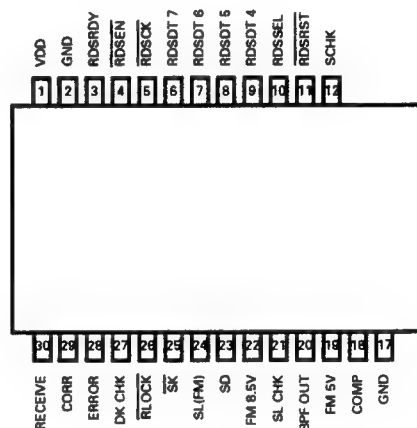
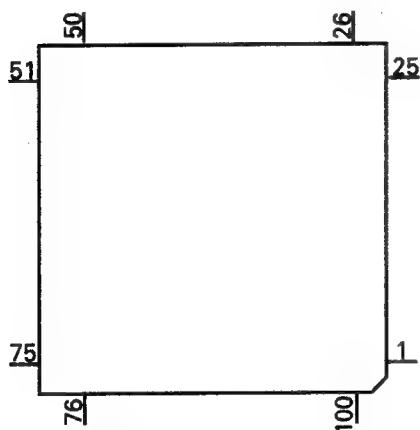


●Pin Functions (HD61202TF)

Pin No.	Pin Name	I/O	Function and Operation
1	VDD		Power supply
2-5	V4R-V1R		LCD drive level power supply
6	VEE		LCD drive circuit power supply
7-70	Y64-Y1	O	LCD segment output
71	VEE		LCD drive circuit power supply
72-75	V1L-V4L		LCD drive level power supply
76	GND		GND
77-84	D0-D7	I/O	Data BUS input/output
85	NC		Not used
86,87	CS3,CS2	I	Chip select input
88	NC		Not used
89	CS1	I	Chip select input
90	NC		Not used
91	LRST	I	Reset input
92	R/W	I	Read/write select input
93	D/I	I	Data/instruction select input
94	CL	I	Synchronizing signal input of display data latch
95,96	$\phi 2, \phi 1$	I	Clock input
97	E	I	Write / read enable input
98	FRM	I	Frame signal input
99	ADC	I	Display RAM Y address select input
100	M	I	LCD drive AC signal input

*HD61202TF

CWV1034(RS-K1/EW)

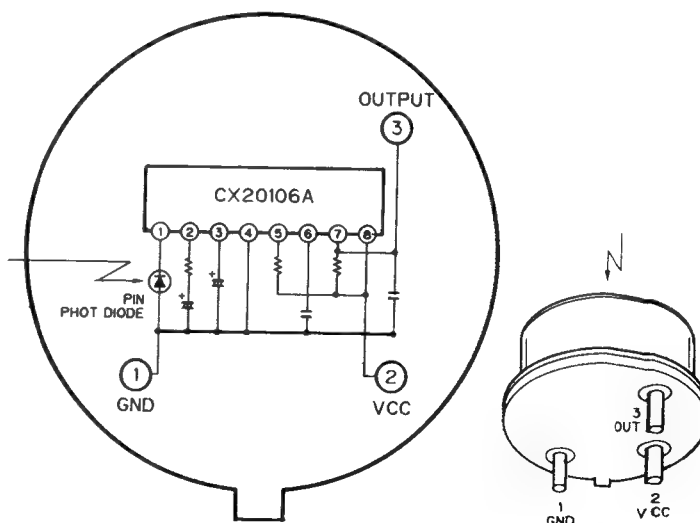
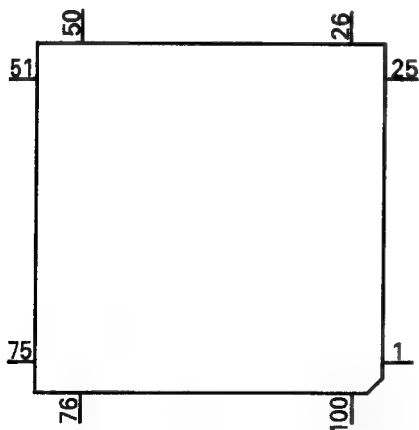


●Pin Functions (HD61203TF)

Pin No.	Pin Name	I/O	Function and Operation
1-19	X19-X1	O	LCD common drive output
20	VEE		LCD drive circuit power supply
21,22	V6L,V5L		LCD drive level power supply
23,24	V2L,V1L		LCD drive level power supply
25	VDD		Power supply
26	DL	I/O	Shift resistor data input/output
27	FS	I	Frequency select input
28,29	DS1,DS2	I	Display duty select input
30	C	I	Oscillator
31	NC		Not used
32	R		Oscillator
33	NC		Not used
34	CR		Oscillator
35	STB	I	Test input
36	SHL	I	Shift direction select input of shift resistor
37	GND		GND
38	NC		Not used
39	M/S	I	Master slave select input
40,41	$\phi 2, \phi 1$	O	Clock output
42	NC		Not used
43	FRM	O	Frame signal output
44	M	O	LCD drive AC signal output
45	NC		Not used
46	FCS	I	Shift clock phase select input
47	DR	I/O	Shift resistor data input/output
48,49	CL1	I	Test input
49	CL2	I/O	Shift clock input/output
50	TH	I	Test input
51,52	V1R,V2R		LCD drive level power supply
53,54	V5R,V6R		LCD drive level power supply
55	VEE		LCD drive circuit power supply
56-100	X64-X20	O	LCD common drive output

*HD61203TF

BX-1393

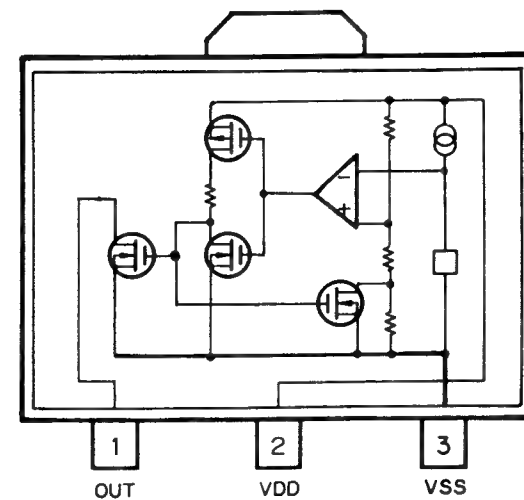
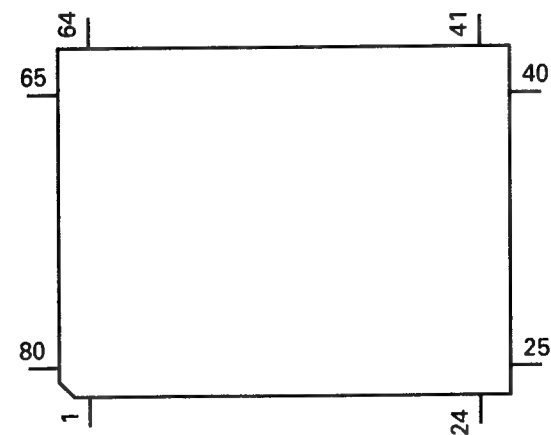


●Pin Functions (PD3235A)

Pin No.	Pin Name	I/O	Function and Operation
1	XTAL	I	Oscillation continuation terminal
2	EXTAL		
3	MD1	I	Not used
4	MD0	I	Cassette mechanism strobe input 0
5	NMI	I	Not used
6	VCC		
7	STBY	I	Not used
8	VSS		GND
9-13	KEYIN0-4	I	Key data input
14,15	NC		Not used
16	E	O	Enable clock output for LCD driver
17	SDTT	O	Serial data output for extension I/O IC
18	SDTR	I	Serial data input from extension I/O IC
19	SCK	I	Serial clock input/output for extension IC
20-22	NC		Not used
23	SBUSY	O	Busy output for extension I/O IC
24	LRÉS	O	Reset output for LCD driver
25	NC		Not used
26	IOS	O	Chip select output for LCD driver
27	AS	O	Not used
28	LCDR/W	O	Read / write output for LCD driver
29	PRRD	O	Read signal output for ROM IC
30	WAIT	I	Not used
31	VCC		
32-39	A15-A8	O	Address BUS output for ROM IC
40	VSS		GND
41-48	A7-A0	O	Address BUS output for ROM IC
49-56	D0-D7	I/O	Data input/output for ROM IC
57-60	CT1-CT4	O	LCD contrast control output
61	REMIN	I	Remote control signal input
62	BRST	O	Reset output extension I/O IC
63	NC		Not used
64	RES	I	Reset input

*PD3235A

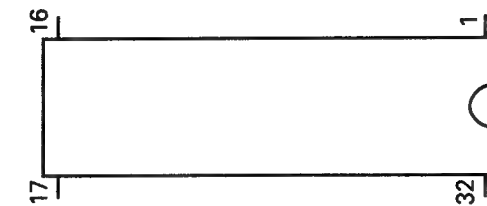
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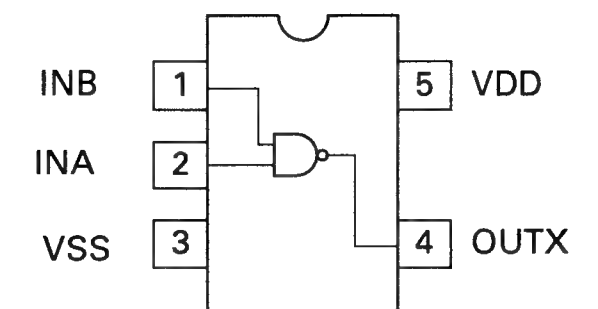
●Pin Functions (PD3256A)

Pin No.	Pin Name	I/O	Function and Operation
1	NC		Not used
2,3	A16,A15	I	Address BUS input
4	A12	I	Address BUS input
5-12	A7-A0	I	Address BUS input
13-15	D0-D2	O	Data output
16	VSS		GND
17-21	D3-D7	O	Data output
22	CE	I	Chip enable input
23	A10	I	Address BUS input
24	OE	I	Output enable input
25	A11	I	Address BUS input
26,27	A9,A8	I	Address BUS input
28,29	A13,A14	I	Address BUS input
30	NC		Not used
31	A16	I	Address BUS input
32	VDD		Power supply

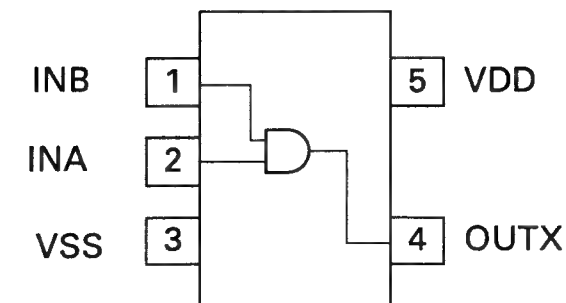
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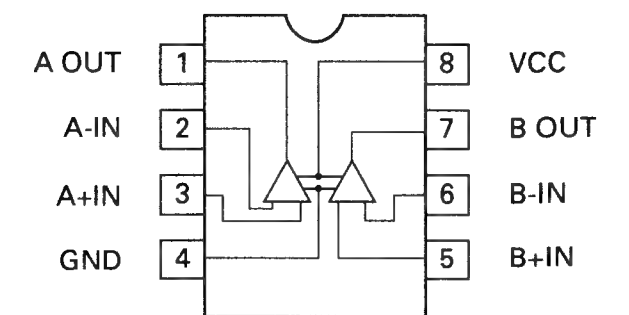
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*TC4S81F



RC5532MD



5. BLOCK DIAGRAM

●SYSTEM

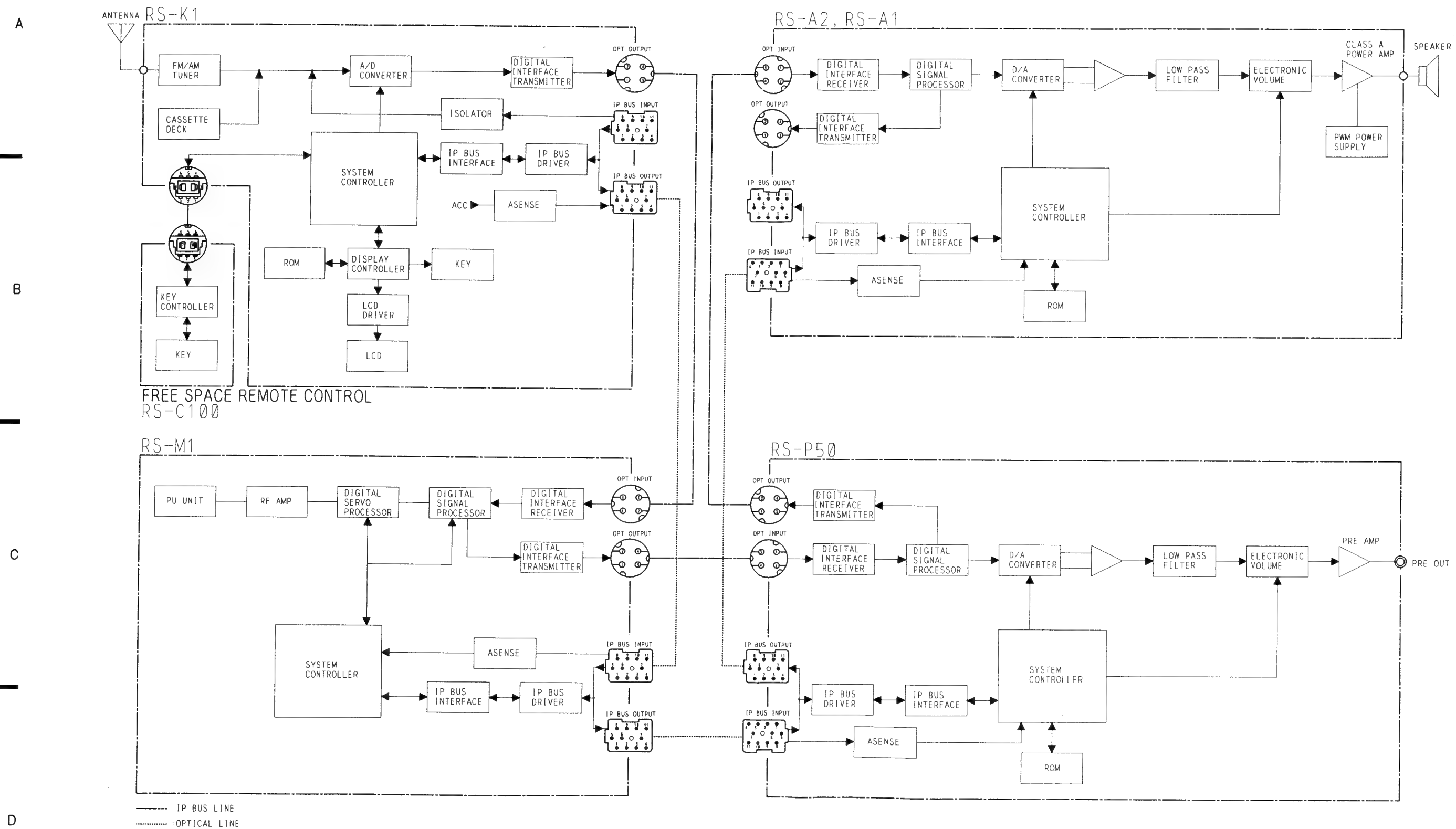


Fig.15

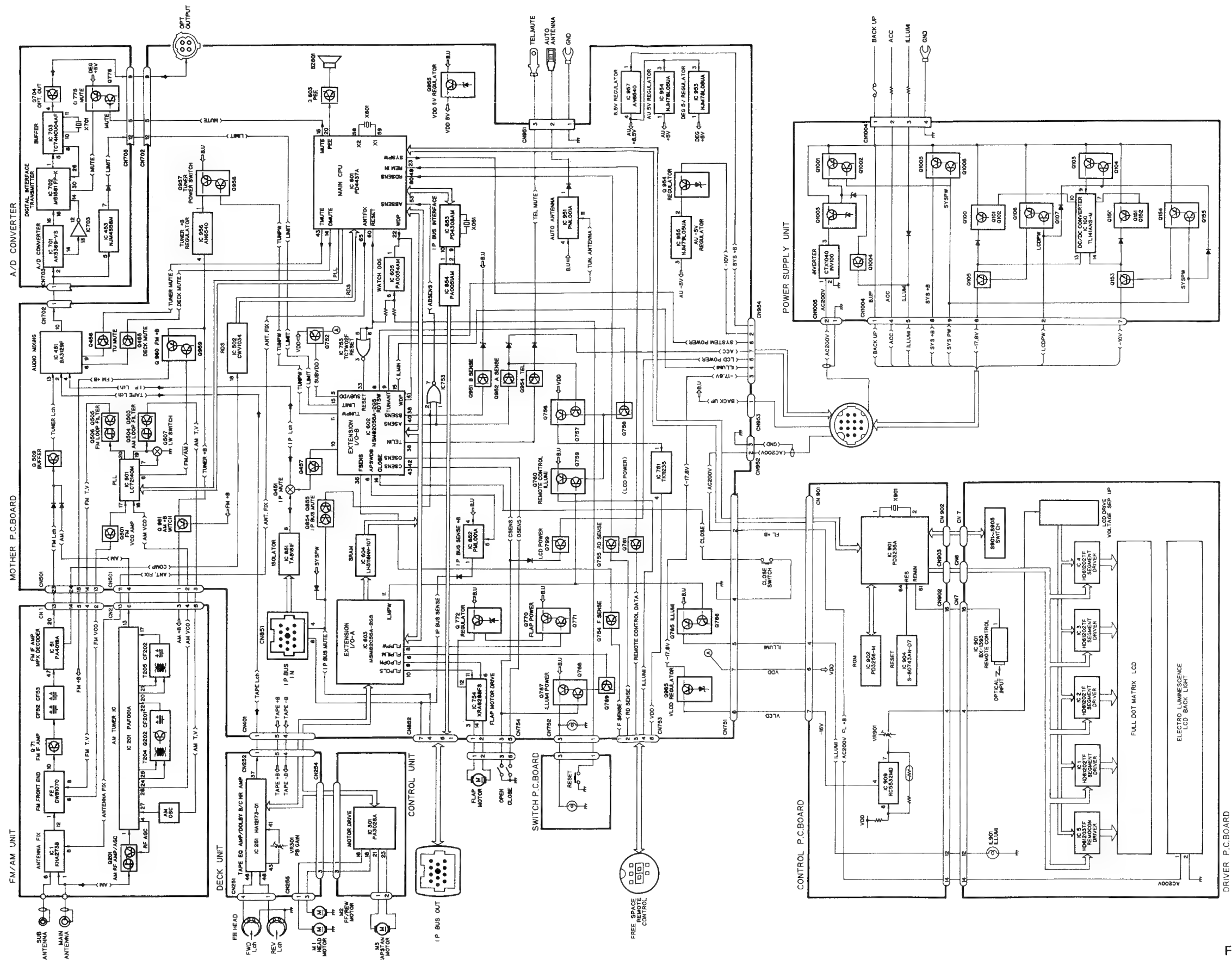


Fig.16

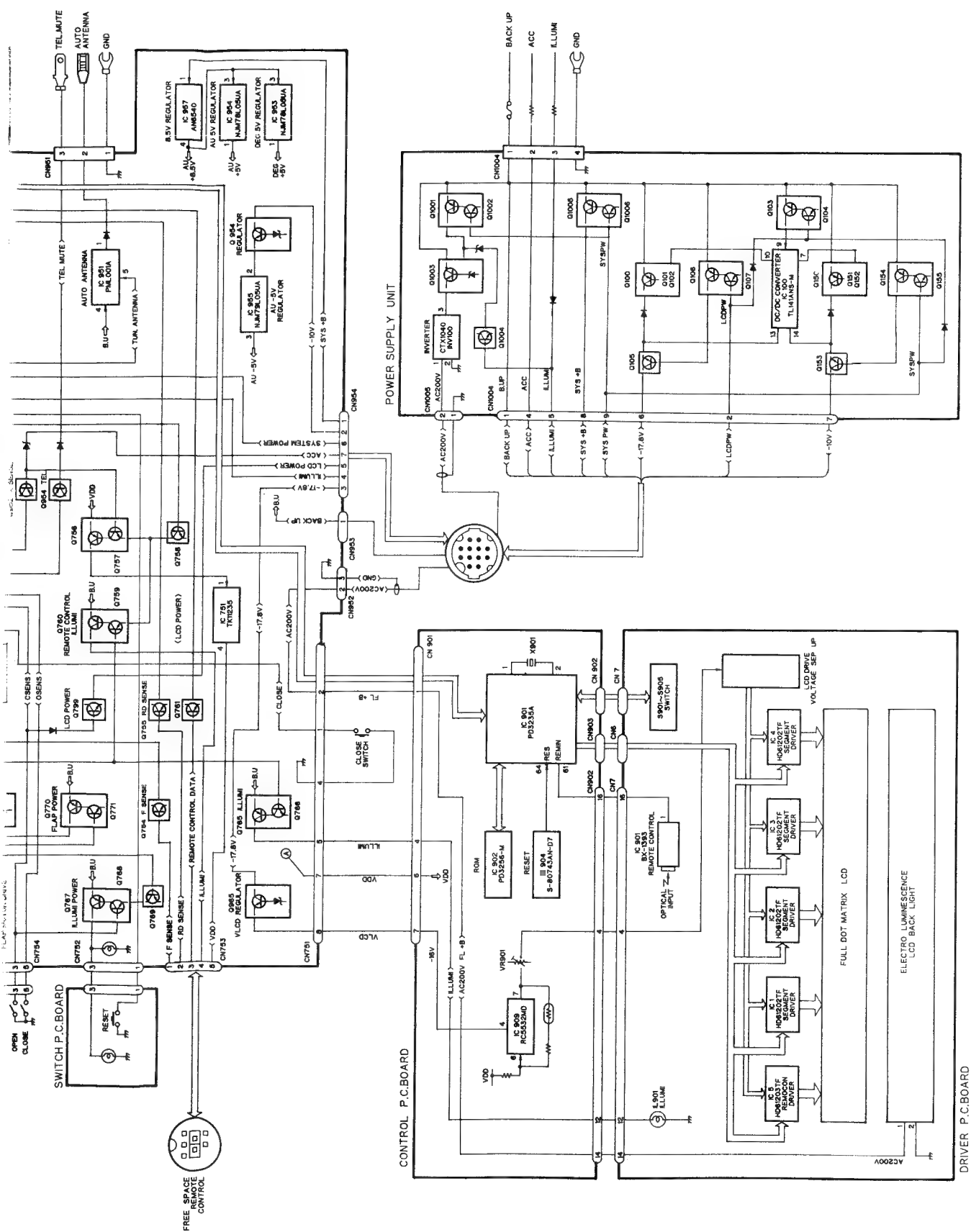
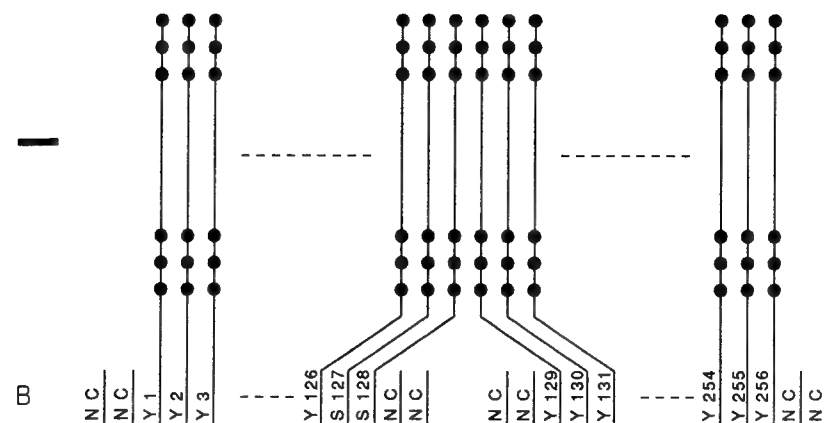


Fig.16

●LCD(CAW1189)

A Segment



Common

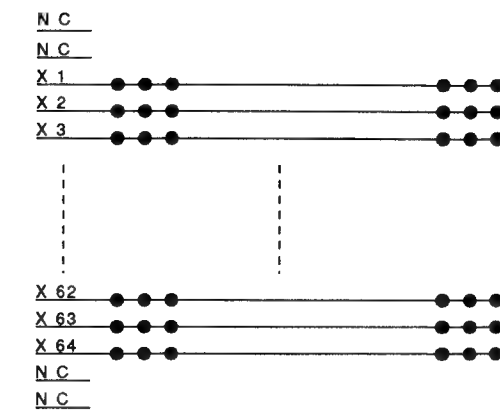


Fig.17

●FM Front End (CWB1070)

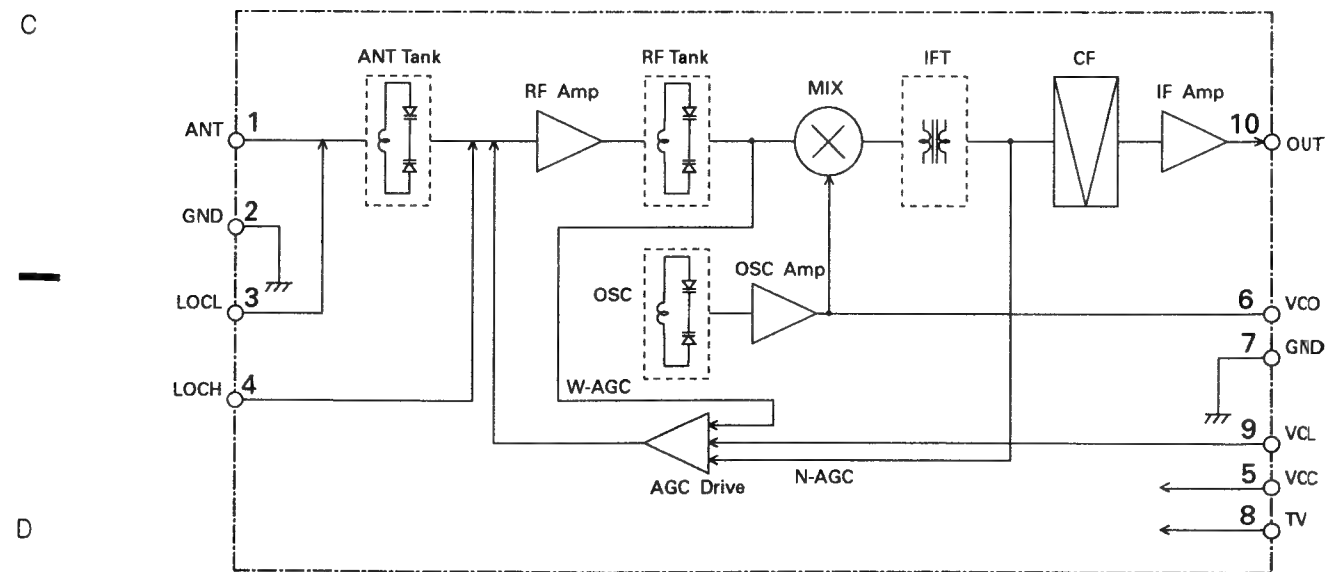
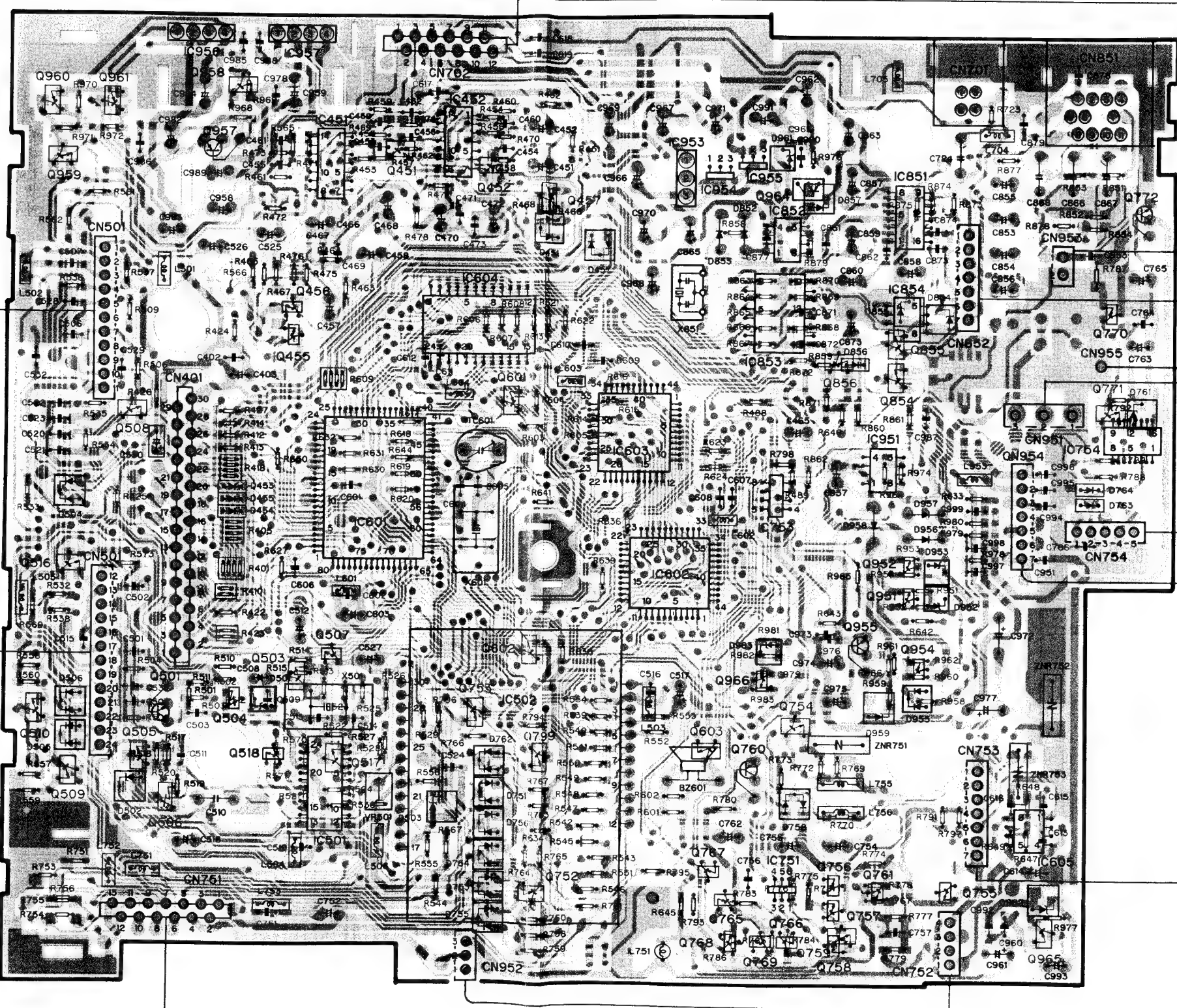


Fig.18

MOTHER P.C. BOARD

Q960 Q961 IC956 Q456 IC957 Q958 Q455 Q507 Q959 Q516 Q508 Q501 Q957 Q503 Q517 IC, Q Q510 Q509 Q505 Q506 Q504 Q518 IC501 IC451 IC601 Q451 IC452 Q452 Q602 IC604 Q601 Q799 Q753 IC502 Q752 Q964 IC955 IC852 Q856 IC851 Q855 IC954 IC853 IC753 Q756 IC854 Q854 IC953 Q767 Q966 Q754 Q757 IC951 Q952 IC602 Q765 Q760 IC751 Q758 Q955 Q951 IC603 Q603 Q768 Q769 Q766 Q759 Q761 Q954 Q755 IC605 Q965 Q772 Q770 Q771 IC754

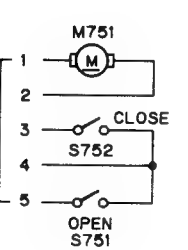


A/D CONVERTER
P.C.BOARD
CN703

POWER SUPPLY UNIT

IP BUS OUTPUT

CORD ASSY



FREE SPACE
REMOTE CONTROL

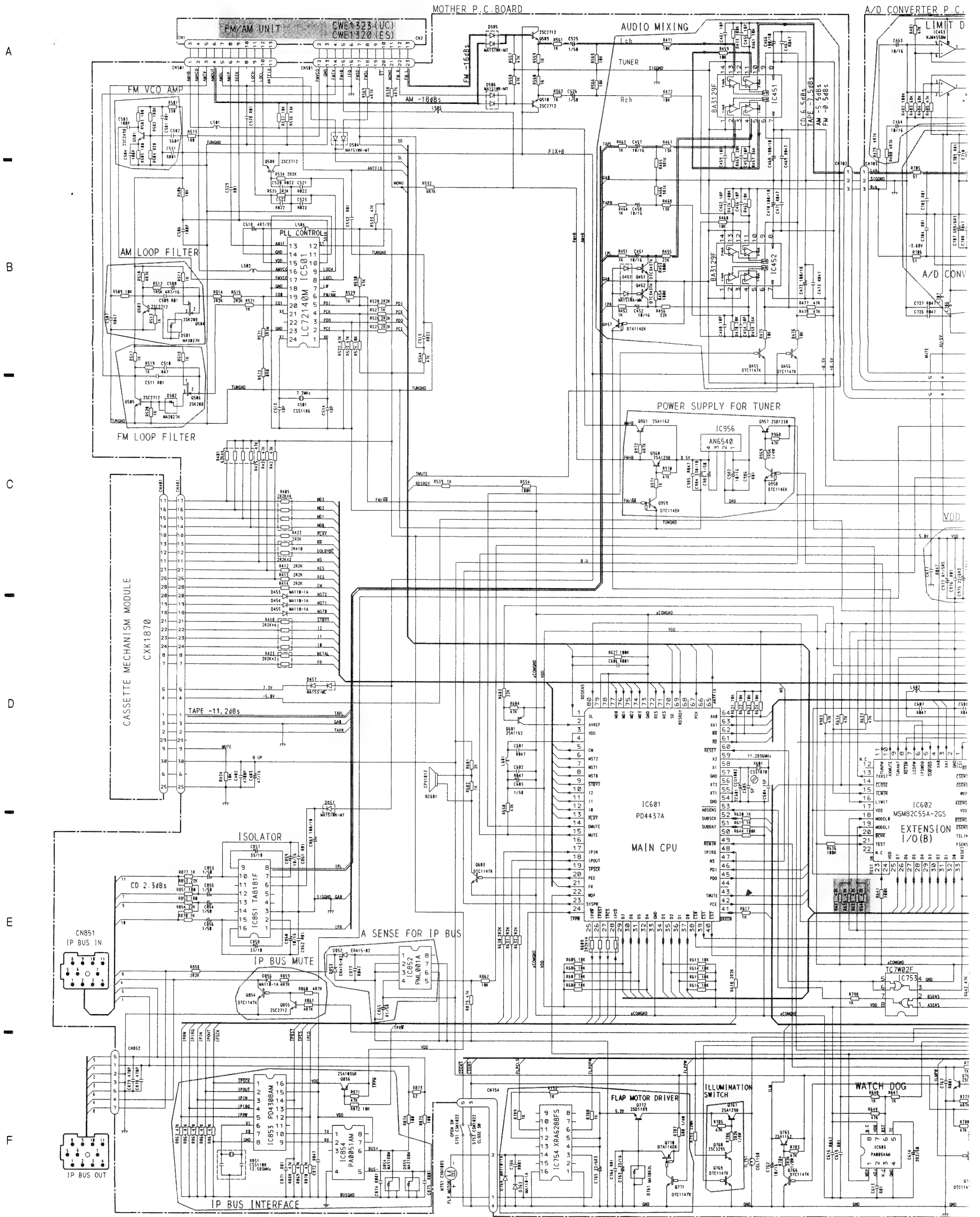
CONTROL P.C.BOARD
CN901

SWITCH P.C.BOARD
CN755

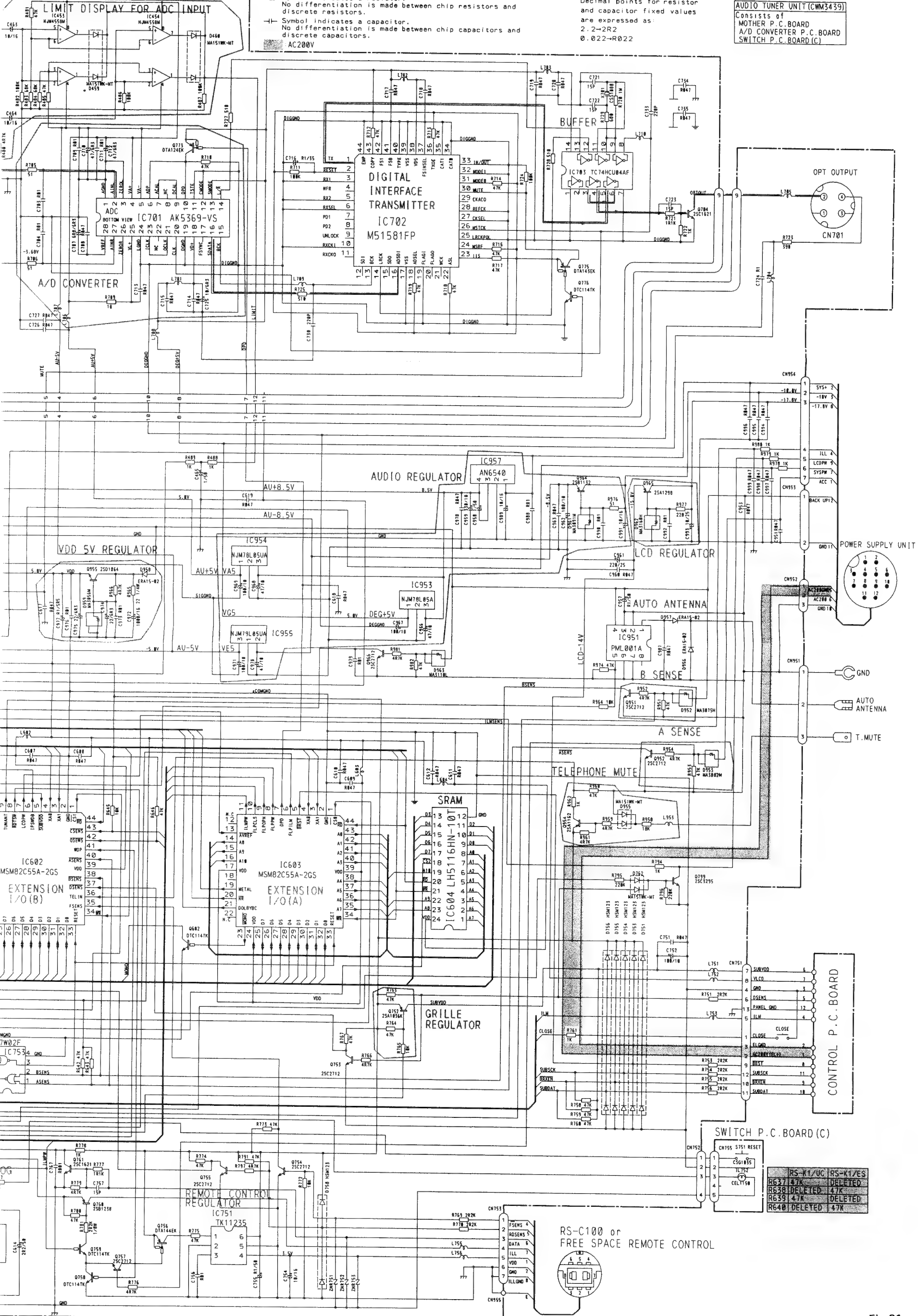
Fig.19

6.2 AUDIO TUNER UNIT (UC,ES)

●Circuit Diagram



CONVERTER P.C. BOARD



NOTE:
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.
AC200V

Decimal points for resistor and capacitor fixed values are expressed as:
2.2-2R2
0.022-022

AUDIO TUNER UNIT (CWM3439)
Consists of
MOTHER P.C. BOARD
A/D CONVERTER P.C. BOARD
SWITCH P.C. BOARD (C)

RS-K1/UC	RS-K1/ES
R637 47K	DELETED
R638 47K	DELETED
R639 47K	DELETED
R640 47K	DELETED

Fig.21

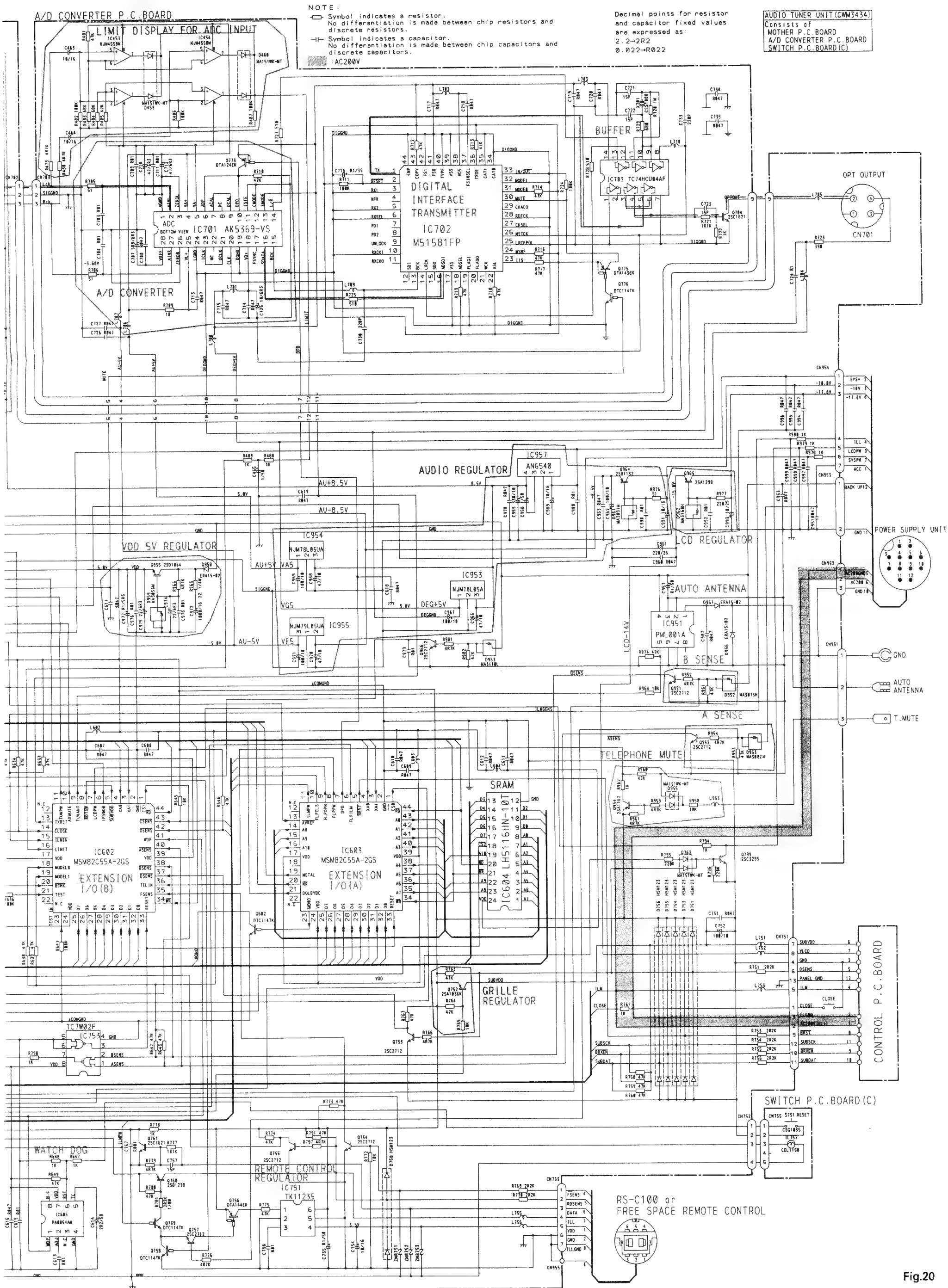
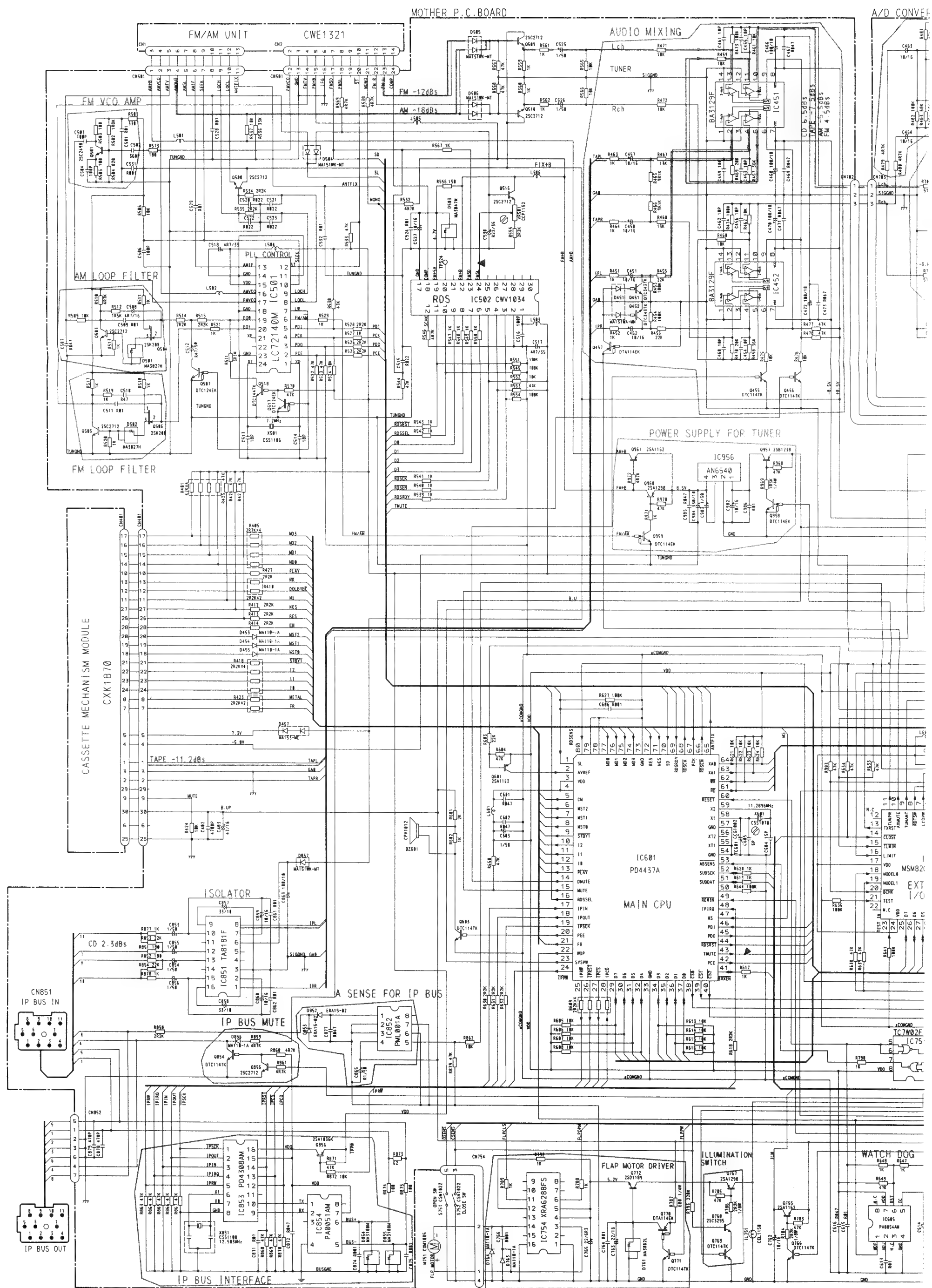


Fig.20



3

2

5

4

!

45

A

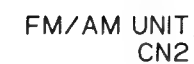
1



C



FM/AM UNIT
CN1



D

22

10

△

1

MOTHER P.C. BOARD

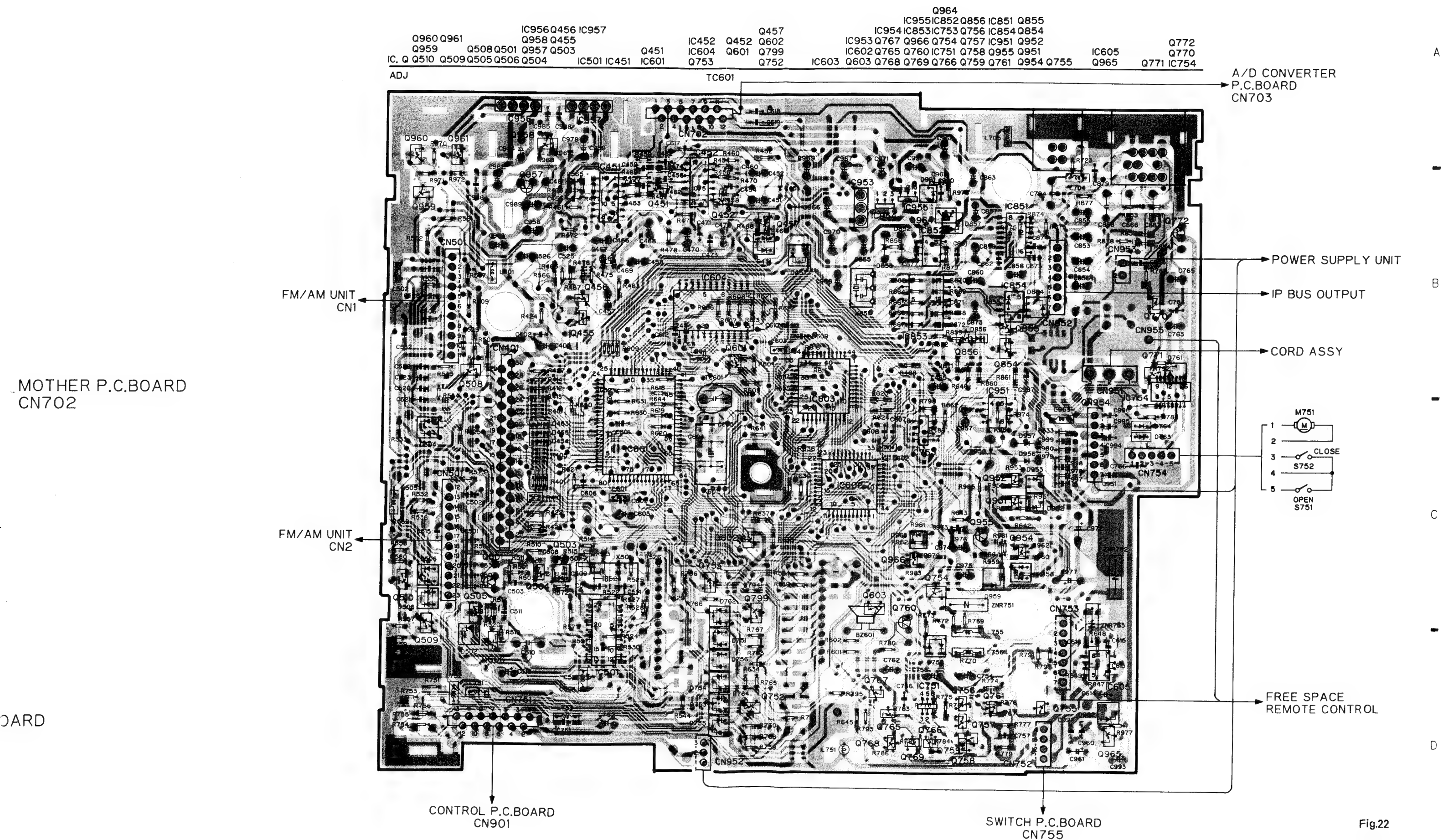


Fig.22

6.3 DRIVER P.C. BOARD

●Connection Diagram

DRIVER P.C. BOARD

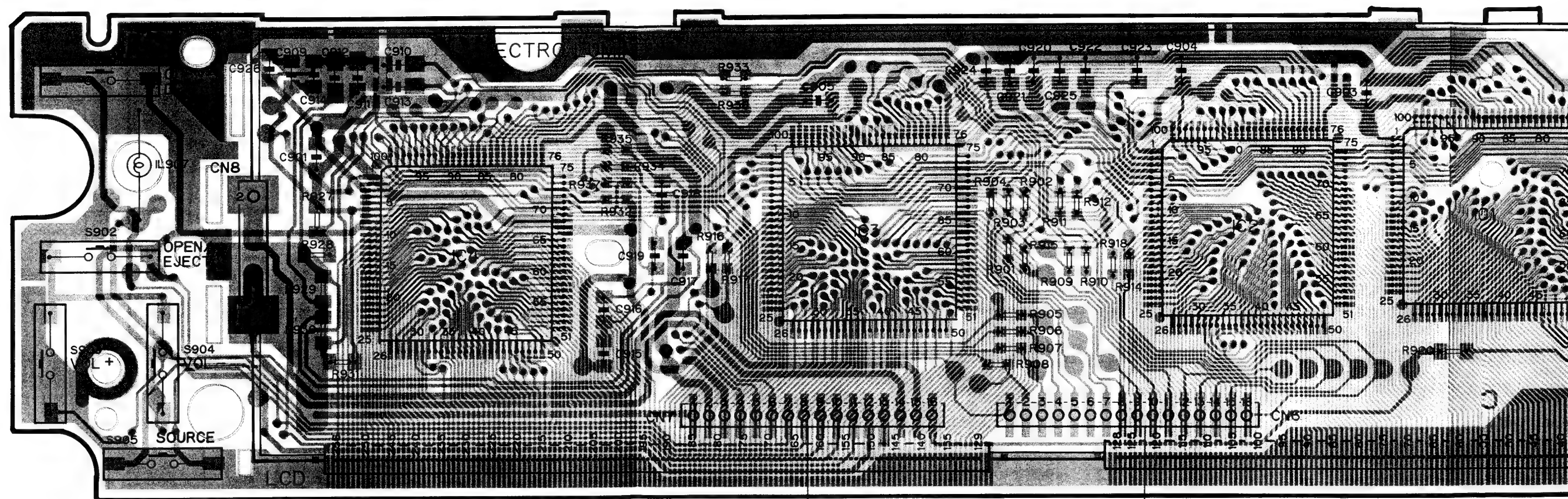
IC. Q

IC4

IC3

IC2

IC1

CONTROL P.C.BOARD
CN902CONTROL P.C.BOARD
CN903

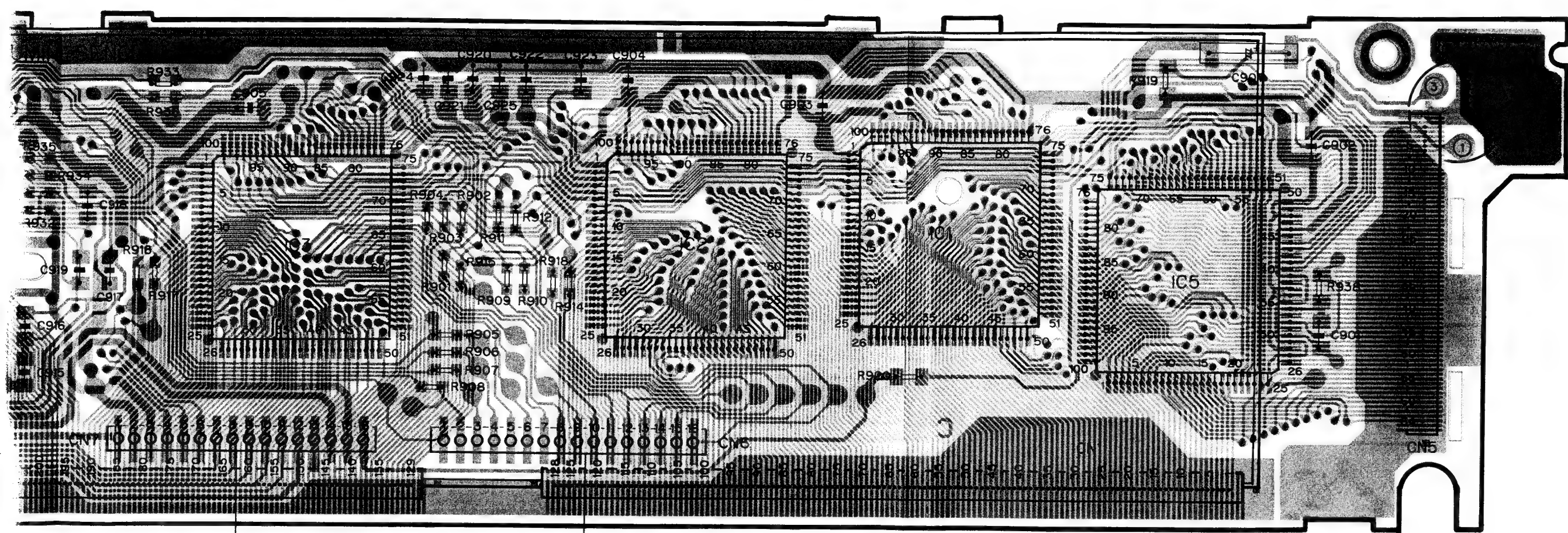
IC3

IC2

IC1

IC5

IC903

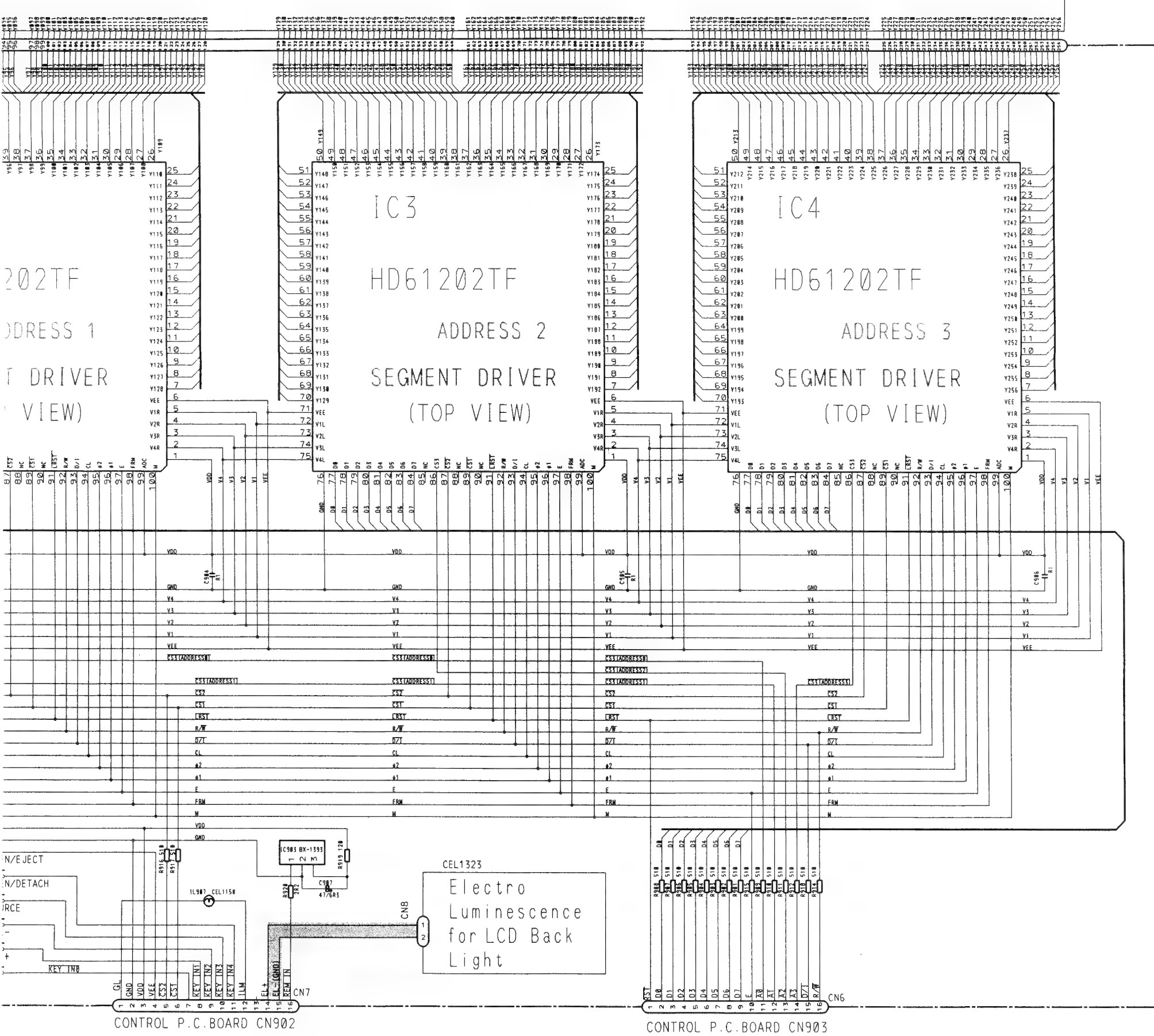


CONTROL P.C.BOARD
CN902

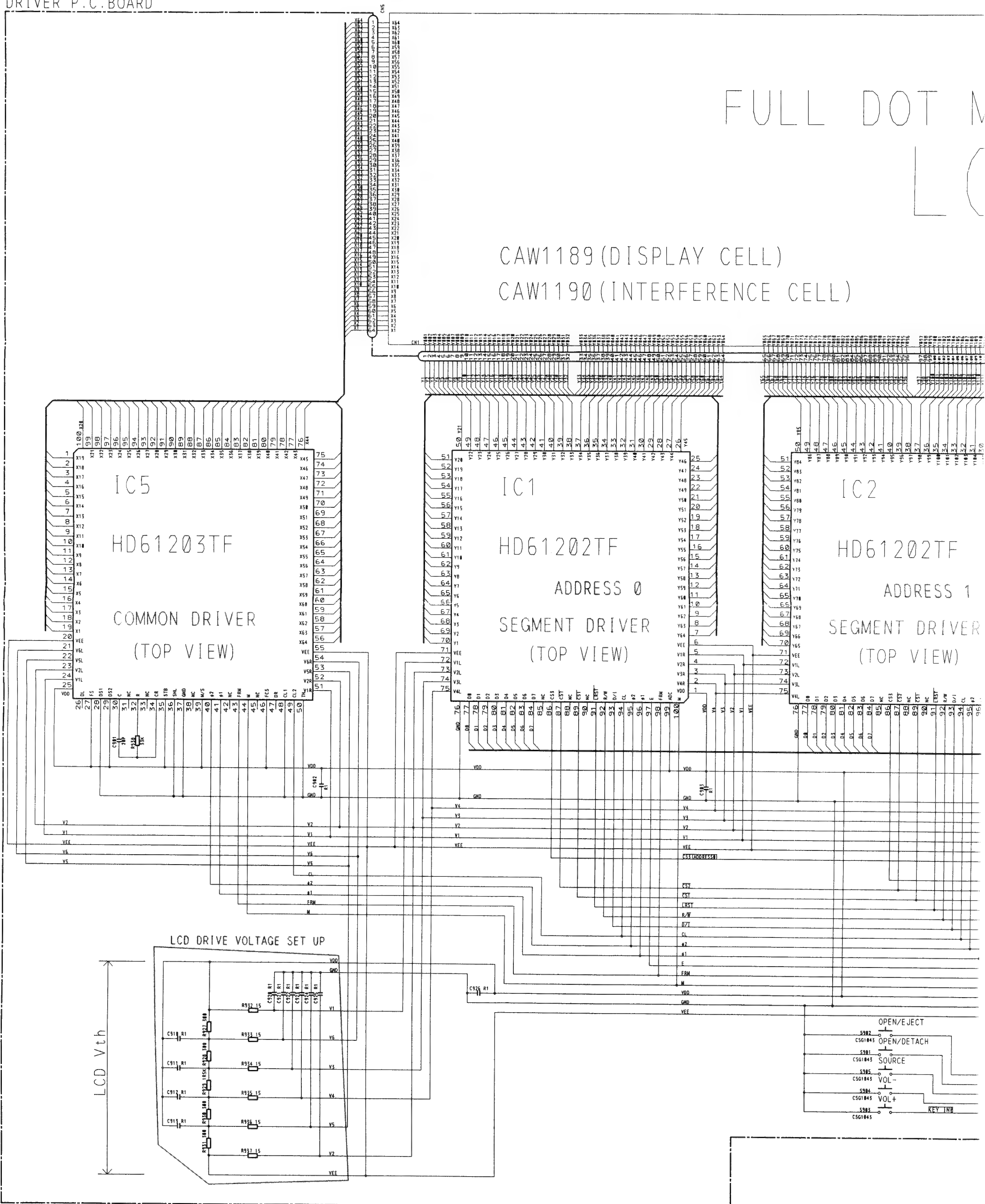
CONTROL P.C.BOARD
CN903

Fig.23

DOT MATRIX (64X256) LCD



DRIVER P.C. BOARD



NOTE:

□ Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

⊞ Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

AC200V

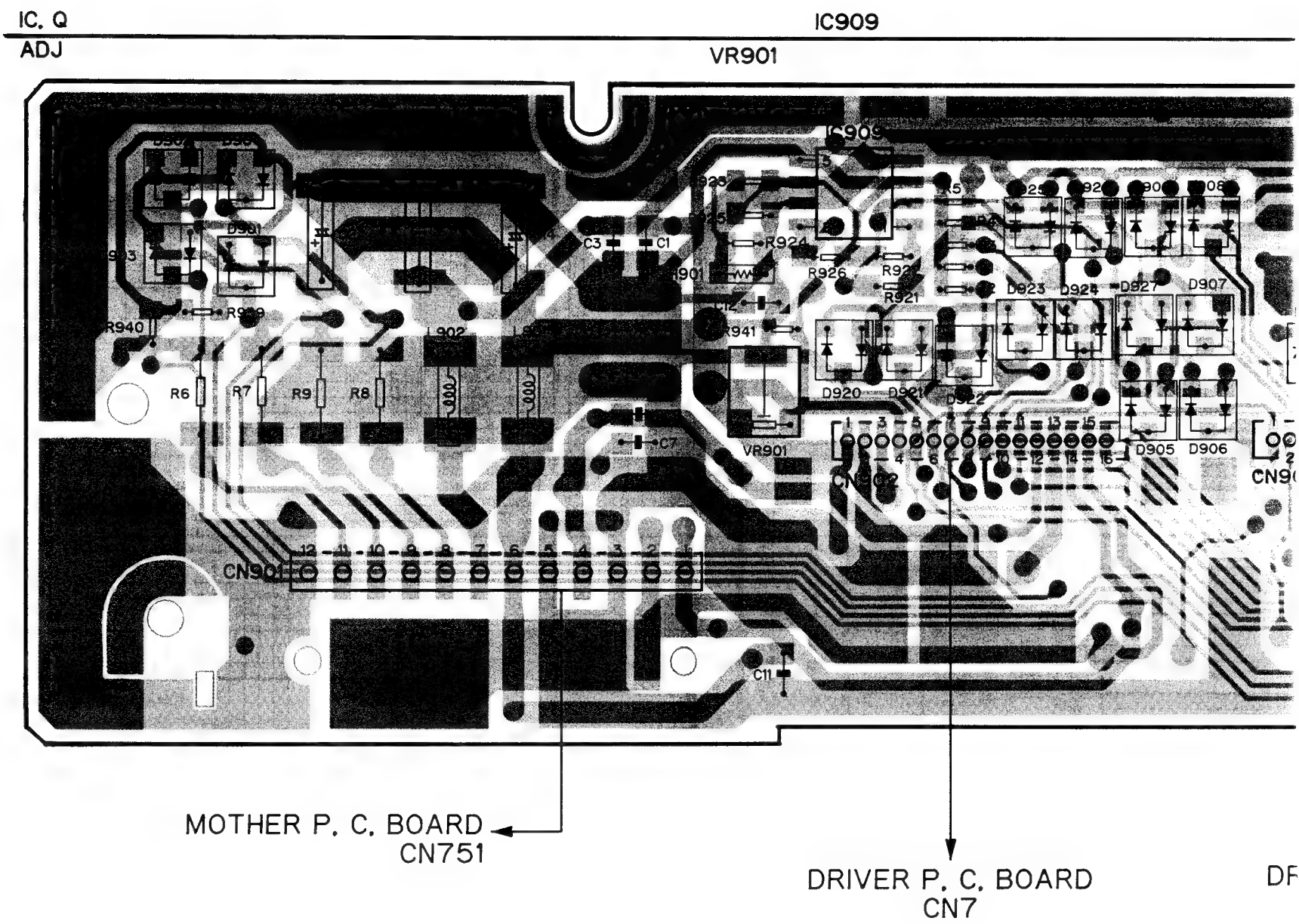
Decimal points for resistor and capacitor fixed values are expressed as:
2.2-2R2
0.022-R022

DISPLAY UNIT
Consists of
CONTROL P.C. BOARD
DRIVER P.C. BOARD

6.4 CONTROL P.C. BOARD

●Connection Diagram

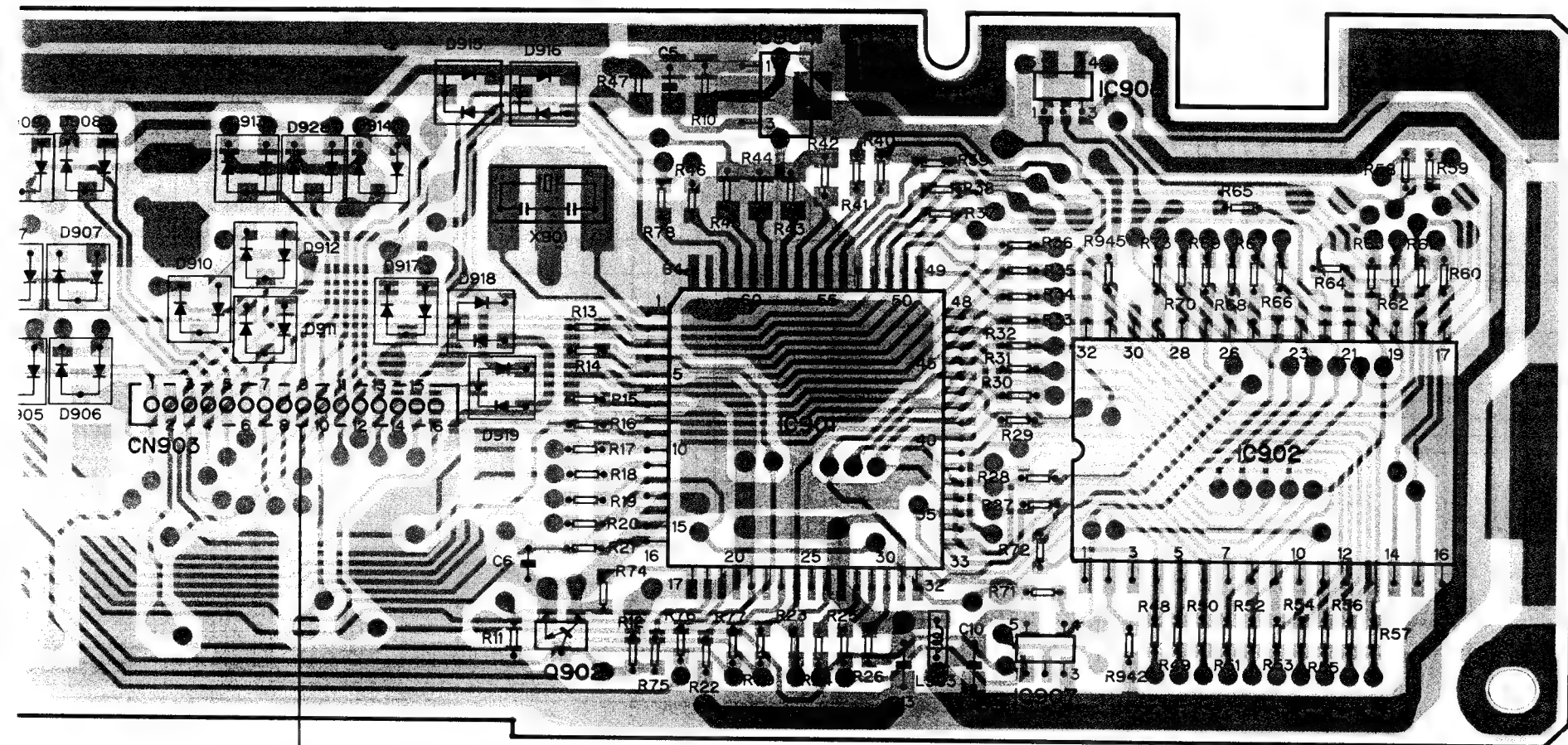
CONTROL P.C. BOARD



Q902

IC904 IC901

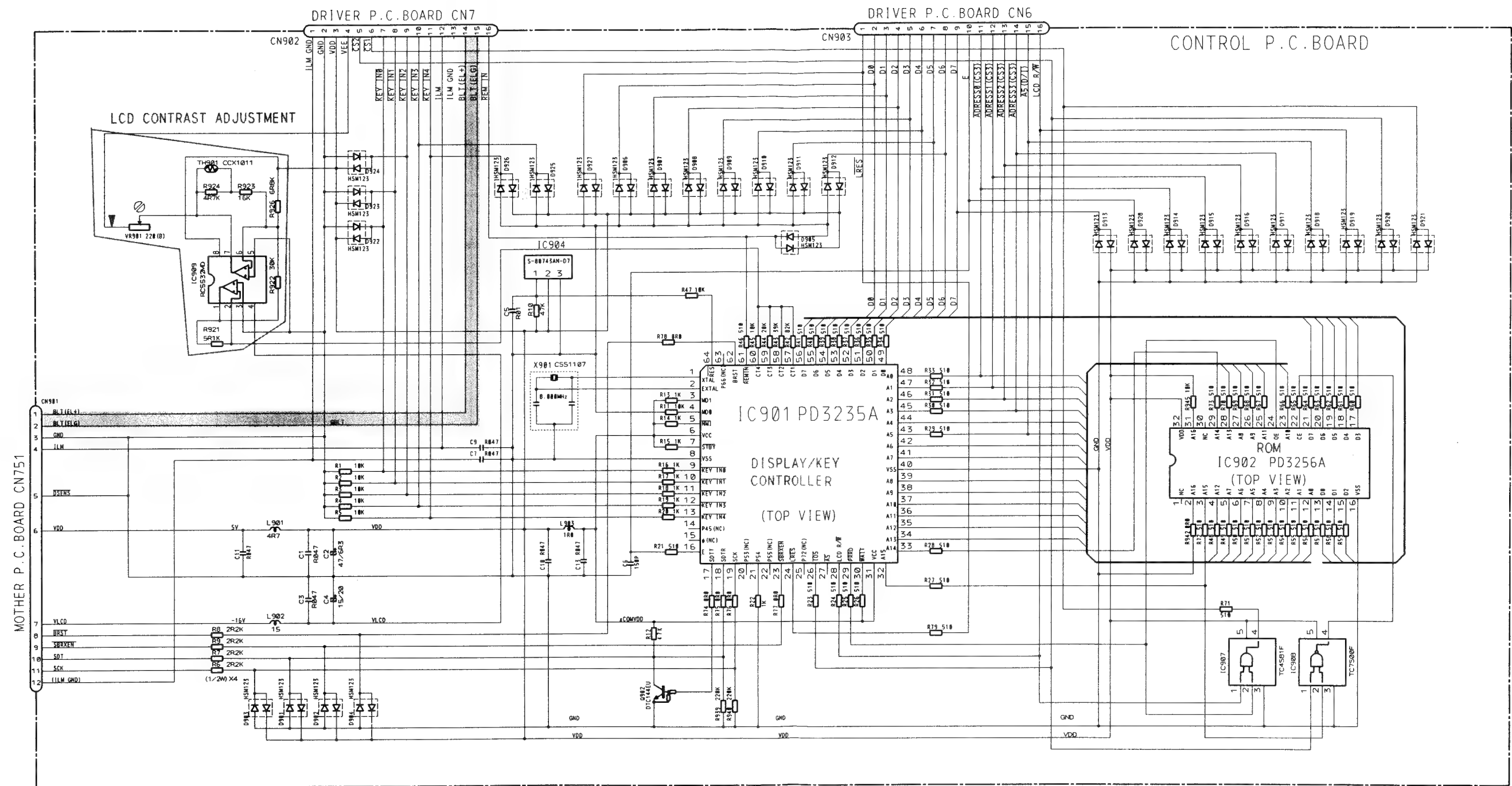
IC908 IC907 IC902



DRIVER P. C. BOARD
CN6

Fig.25

Circuit Diagram



NOTE:
□ Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
—||— Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.
AC200V

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

DISPLAY UNIT
Consists of
CONTROL P.C. BOARD
DRIVER P.C. BOARD

Fig.26

6.5 POWER SUPPLY UNIT

●Circuit Diagram

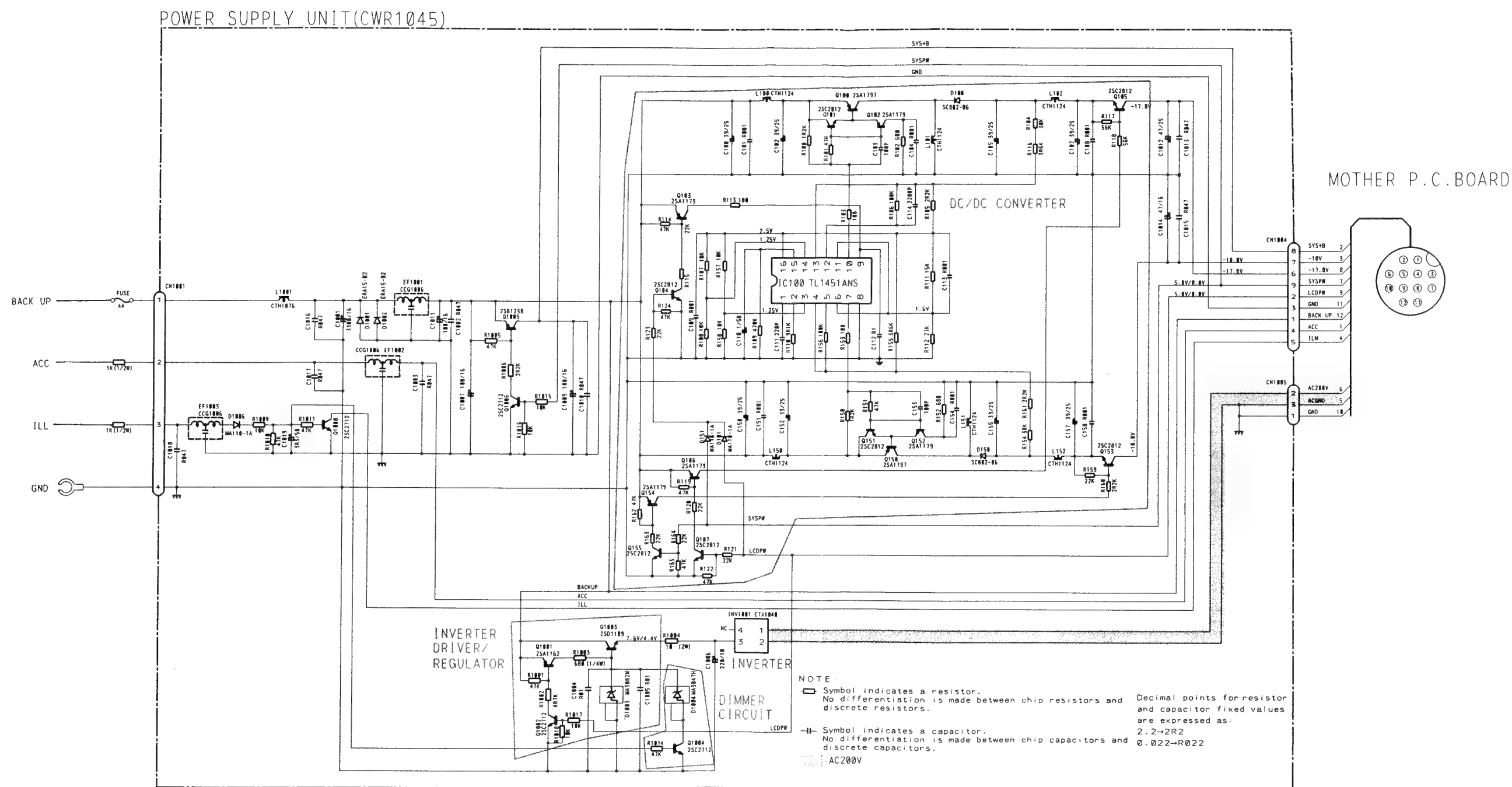


Fig.27

●Connection Diagram

POWER SUPPLY UNIT

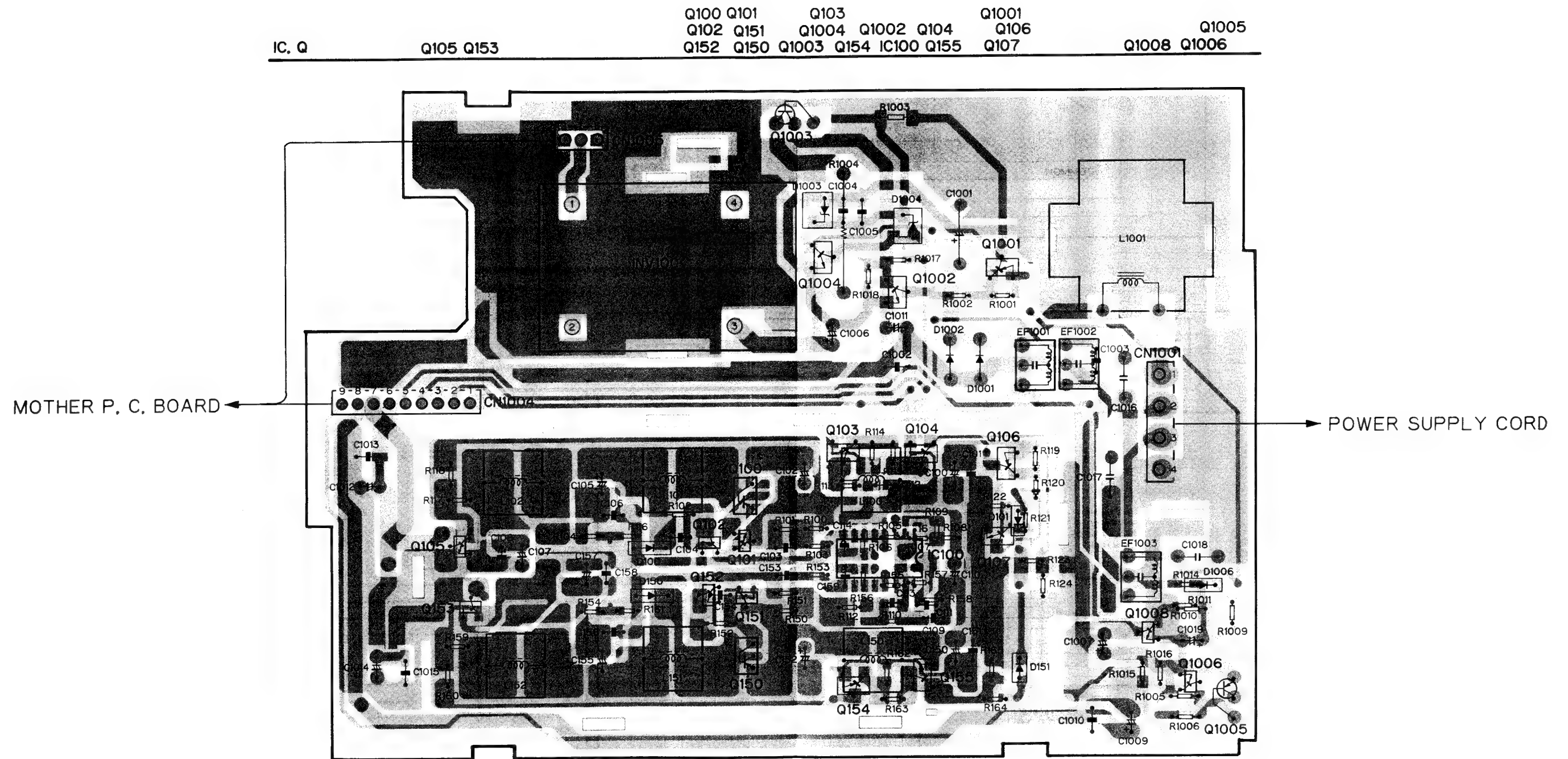


Fig.21

6.6 CASSETTE MECHANISM MODULE

●Circuit Diagram

NOTE:

□ Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

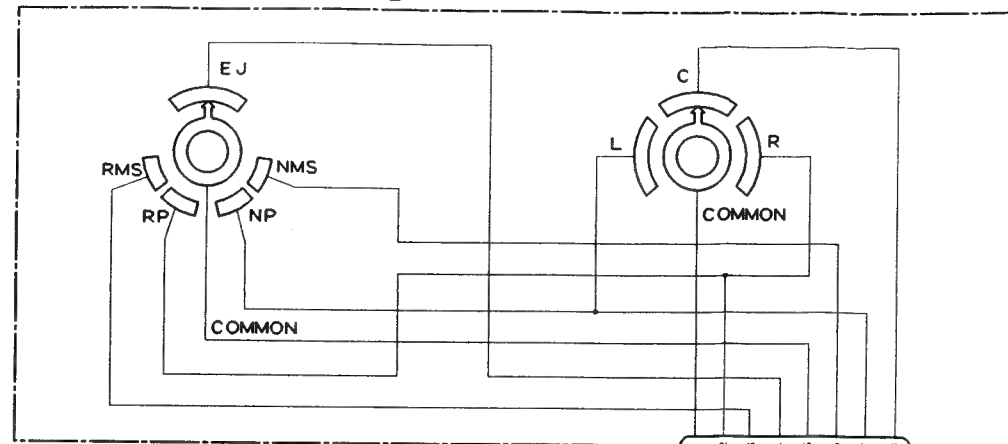
—||— Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:

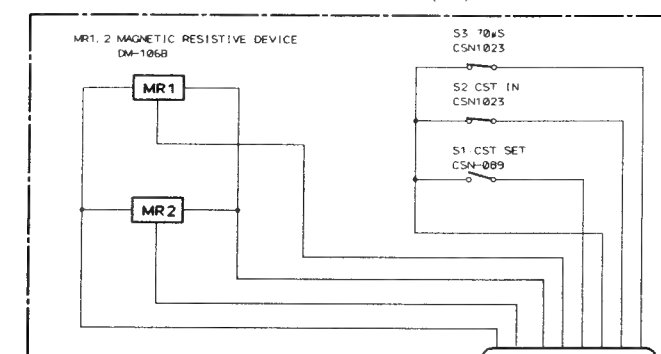
2.2→2R2

0.022→R022

SENSE P.C. BOARD



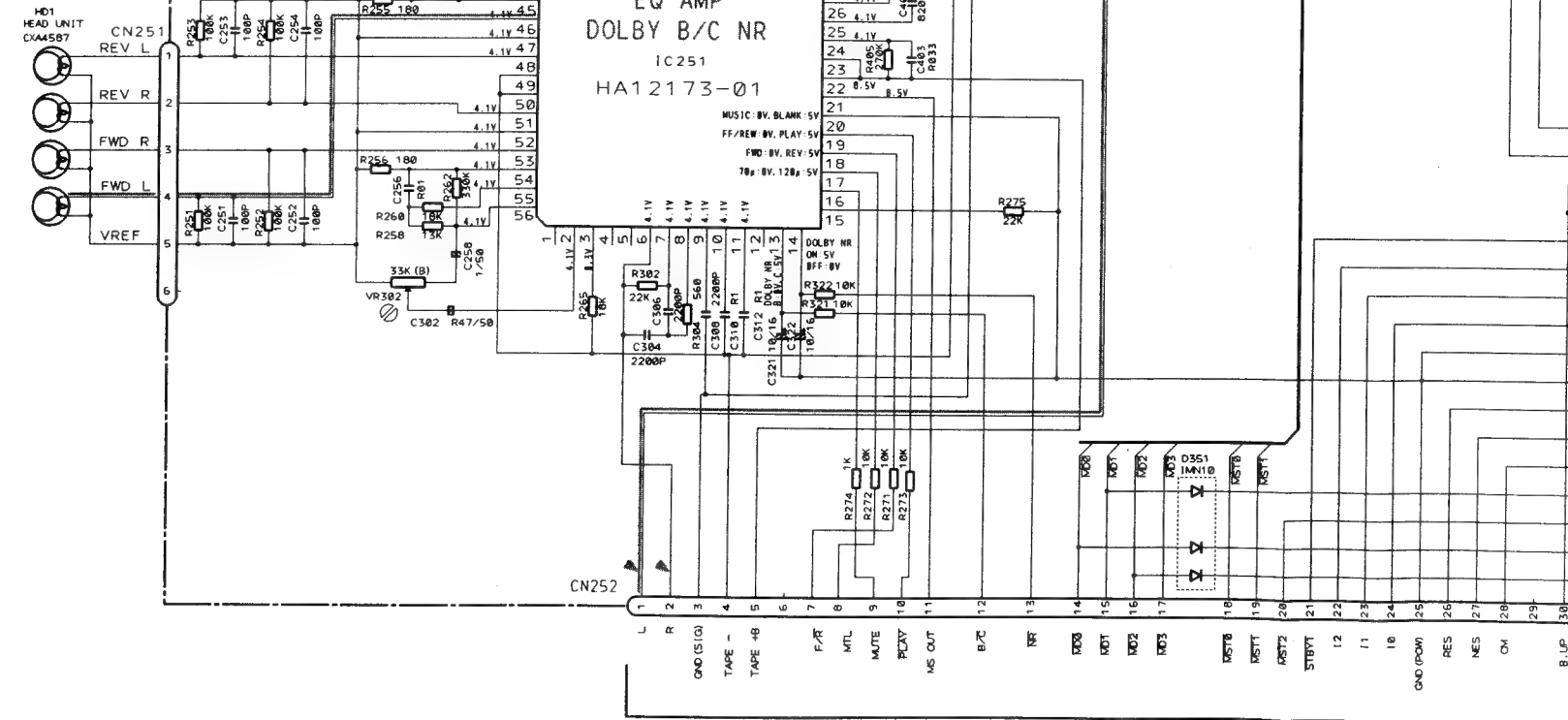
SWITCH P.C. BOARD(D)



DECK UNIT

TEST TAPE:
(315Hz, 0dB)

-75dBs



MOTHER P.C. BOARD CN401

CONTROL UNIT

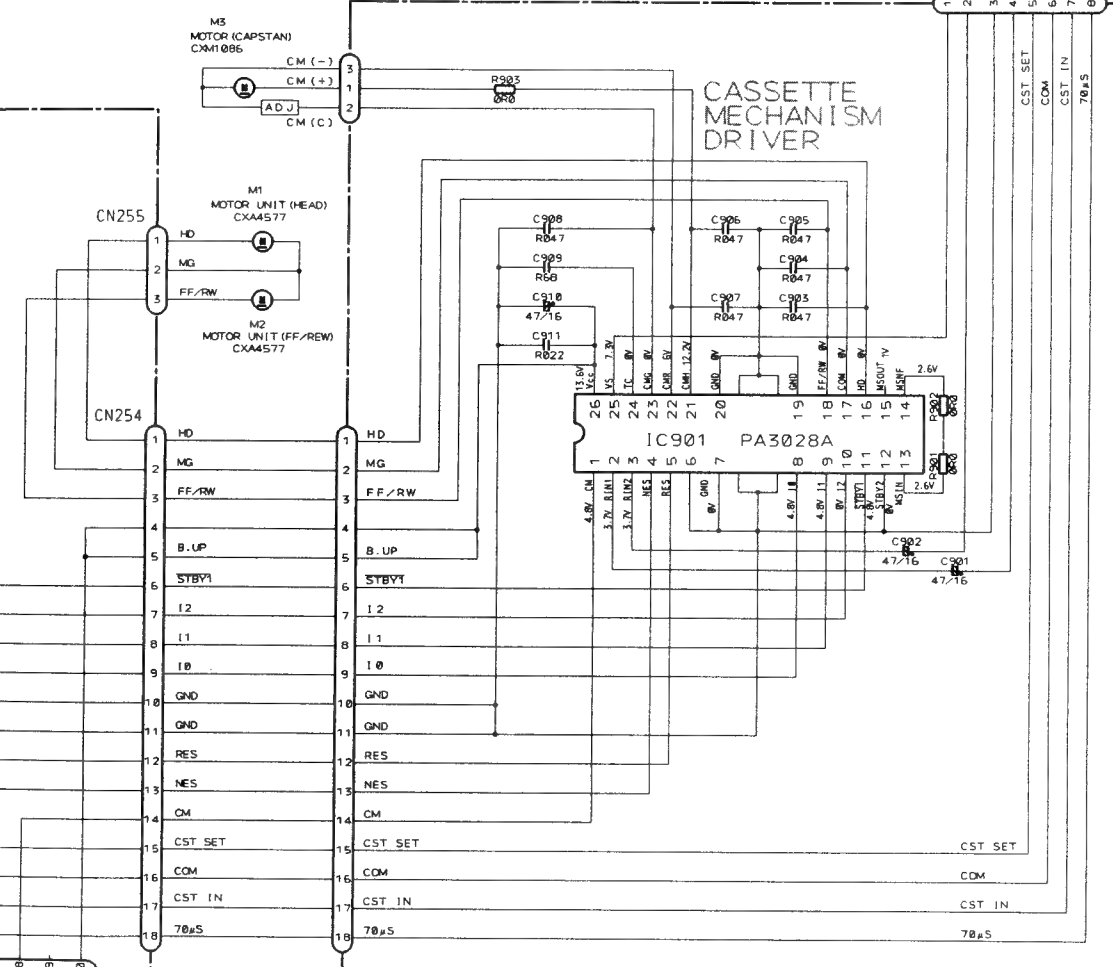
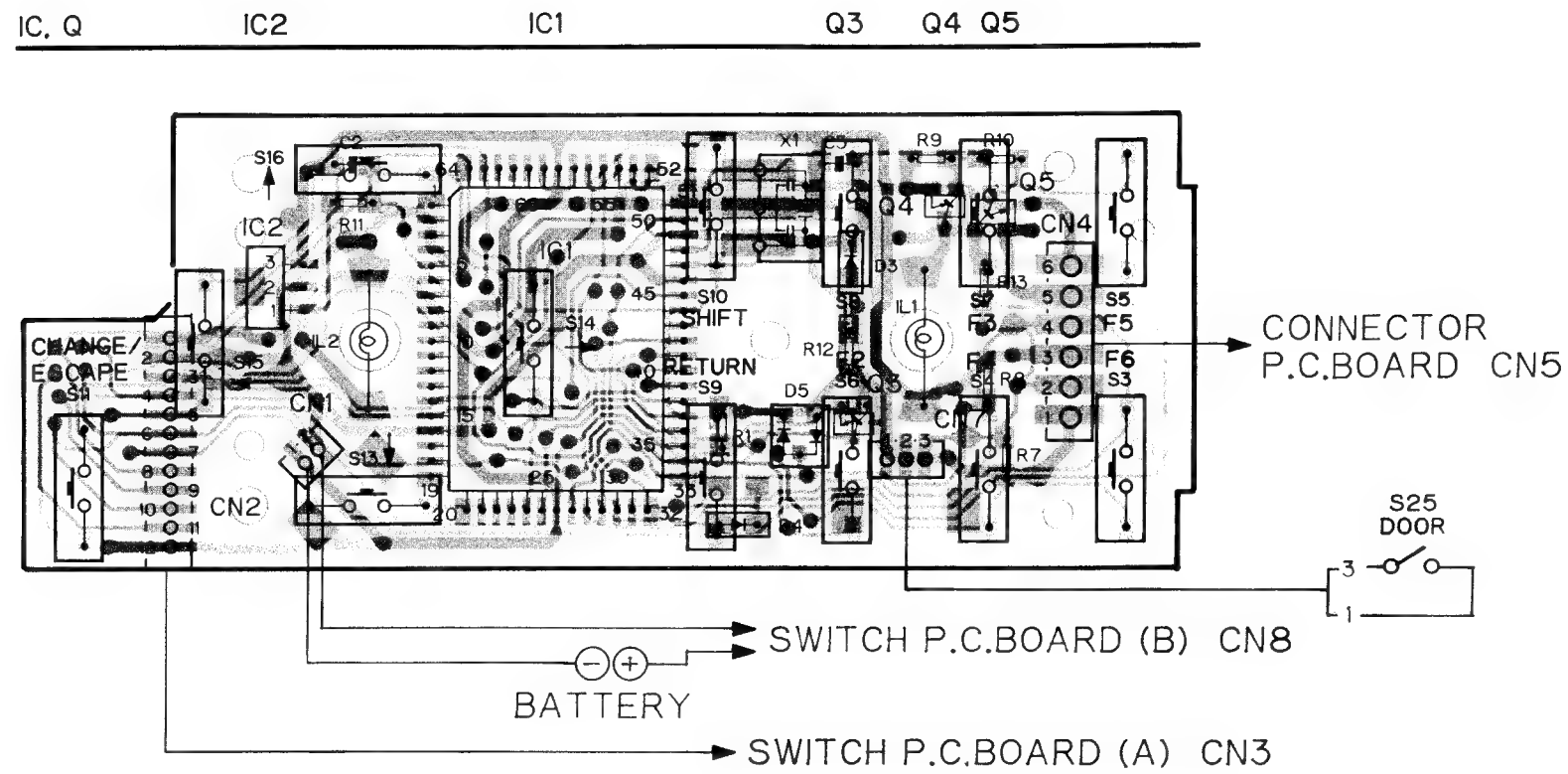


Fig.29

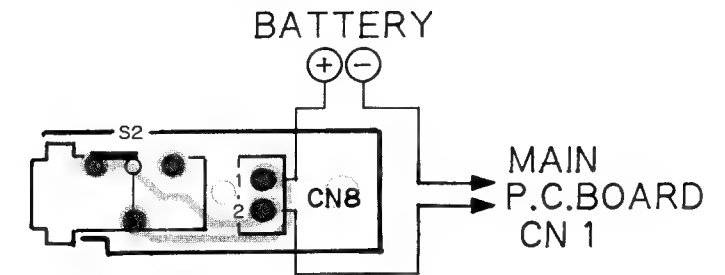
65

● Connection Diagram

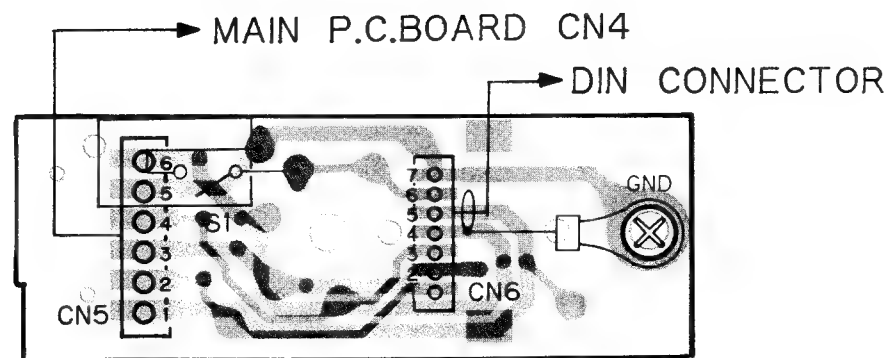
MAIN P.C. BOARD



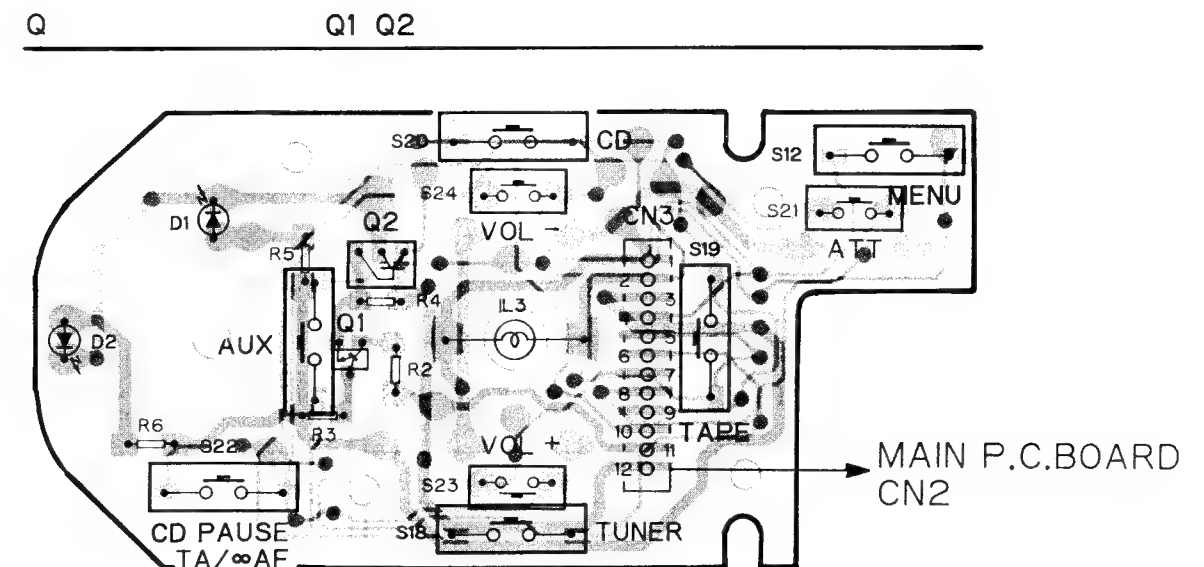
SWITCH P.C. BOARD (B)



CONNECTOR P.C. BOARD



SWITCH P.C. BOARD (A)



6.8 FM/AM UNIT (UC)

●Circuit Diagram

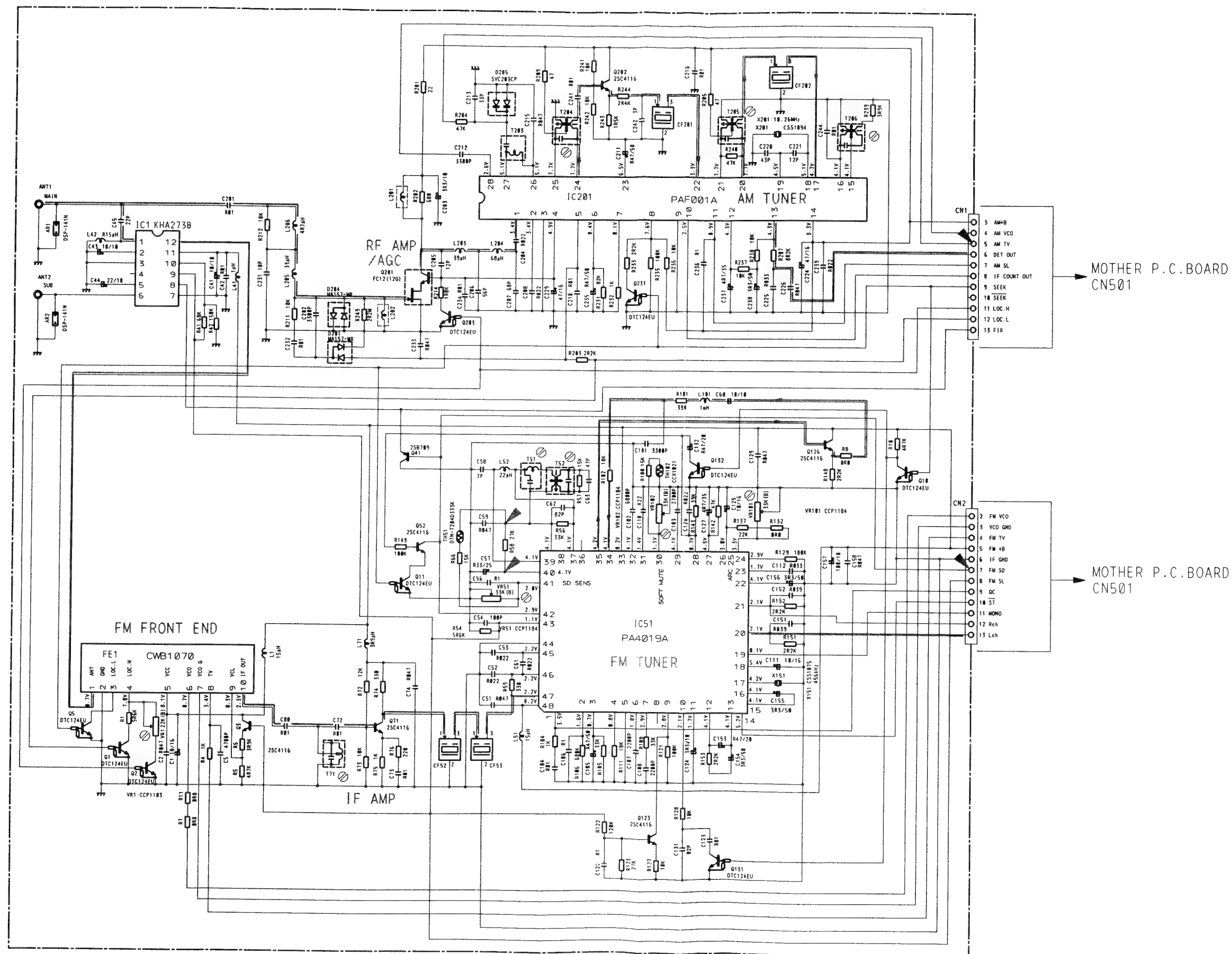


Fig.33

●Connection Diagram

FM/AM UNIT

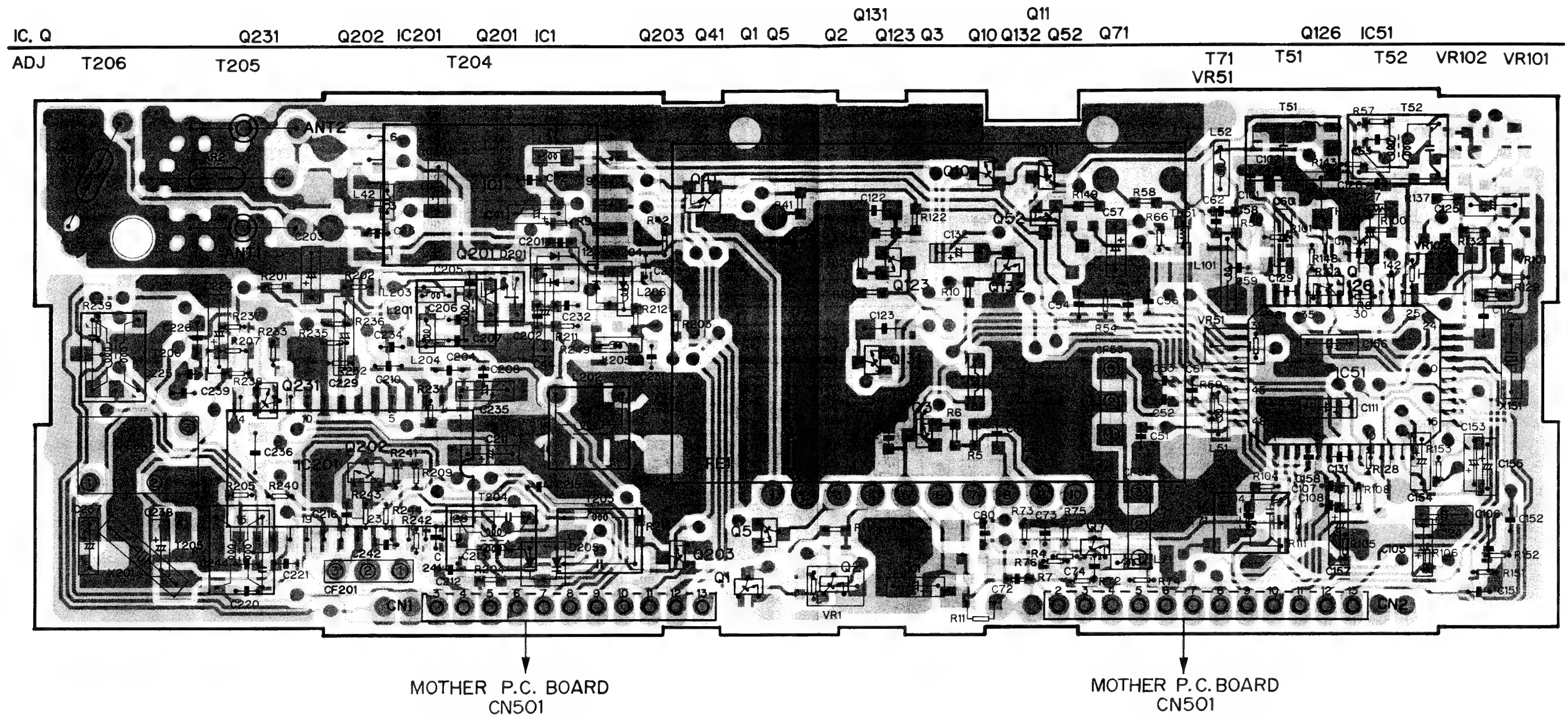


Fig.34

6.9 FM/AM UNIT (EW)

●Circuit Diagram

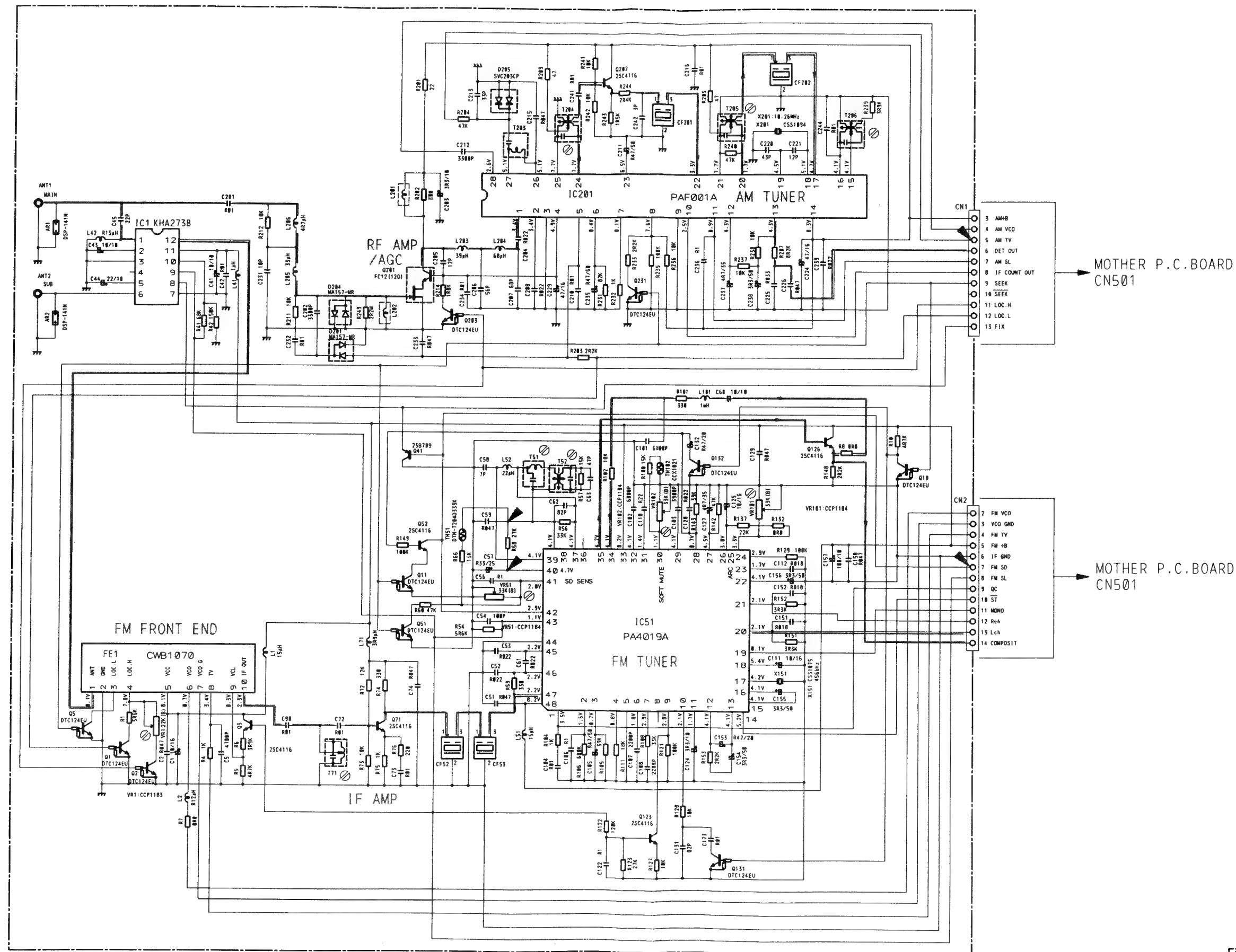


Fig.35

●Connection Diagram

FM/AM UNIT

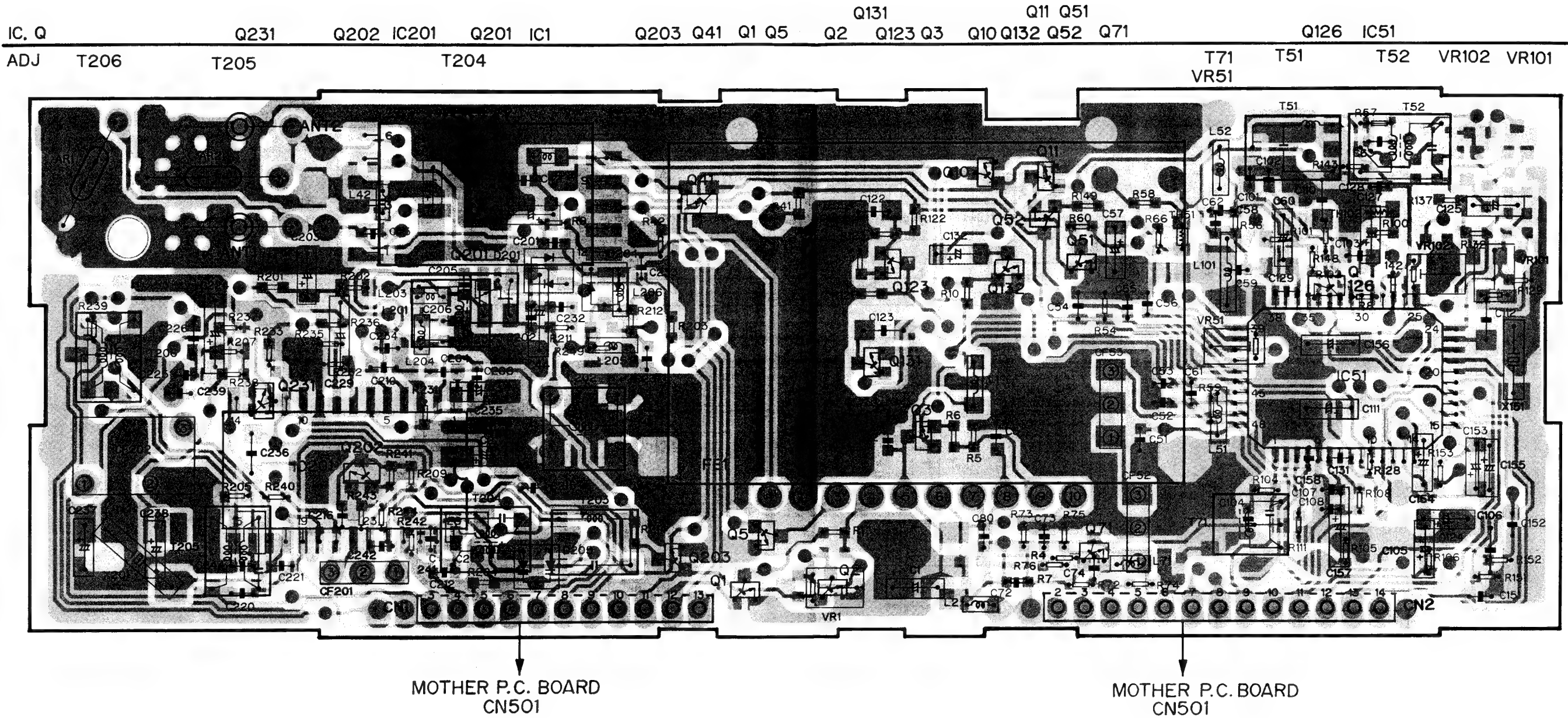


Fig.16

6.10 FM/AM UNIT (ES)

●Circuit Diagram

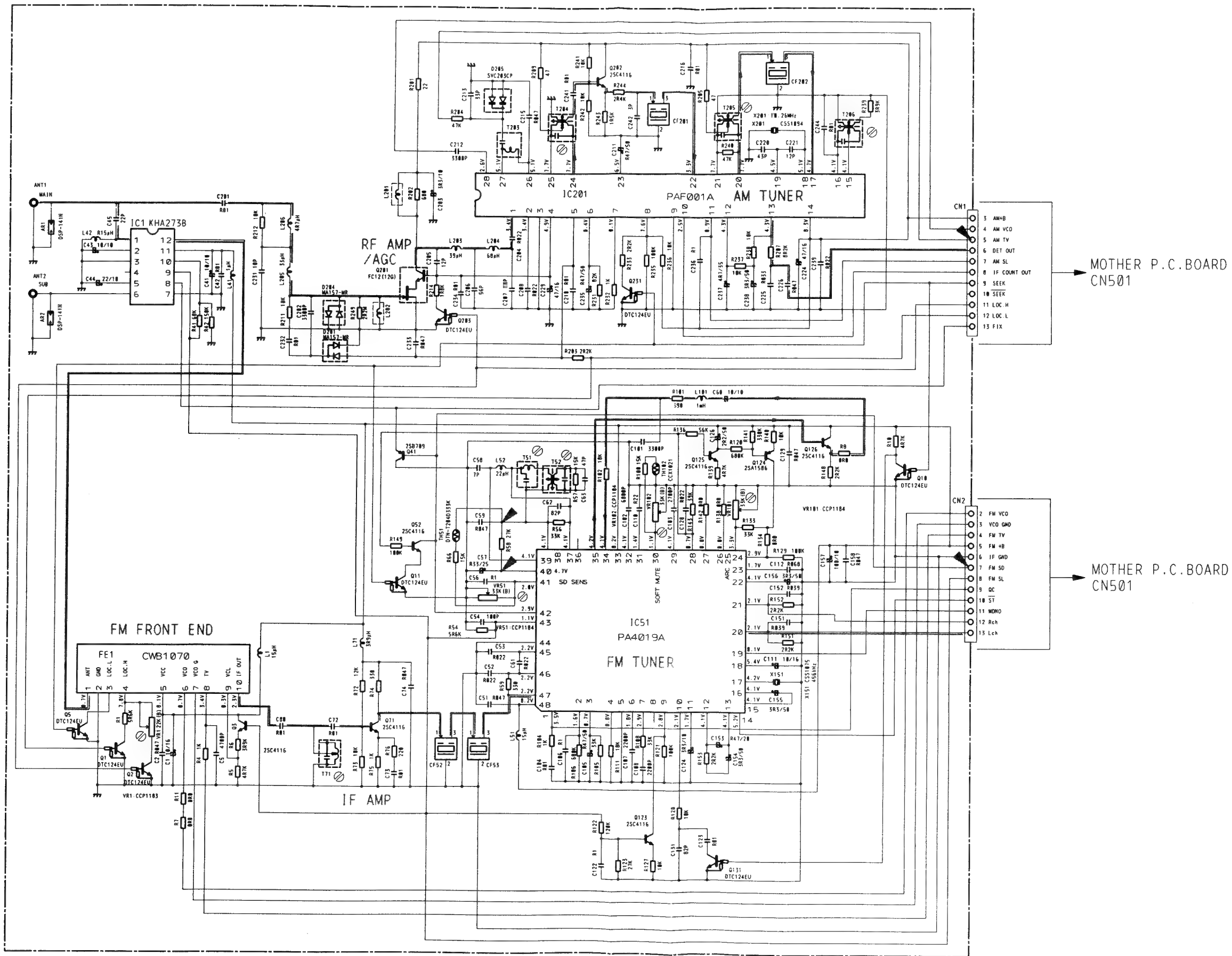
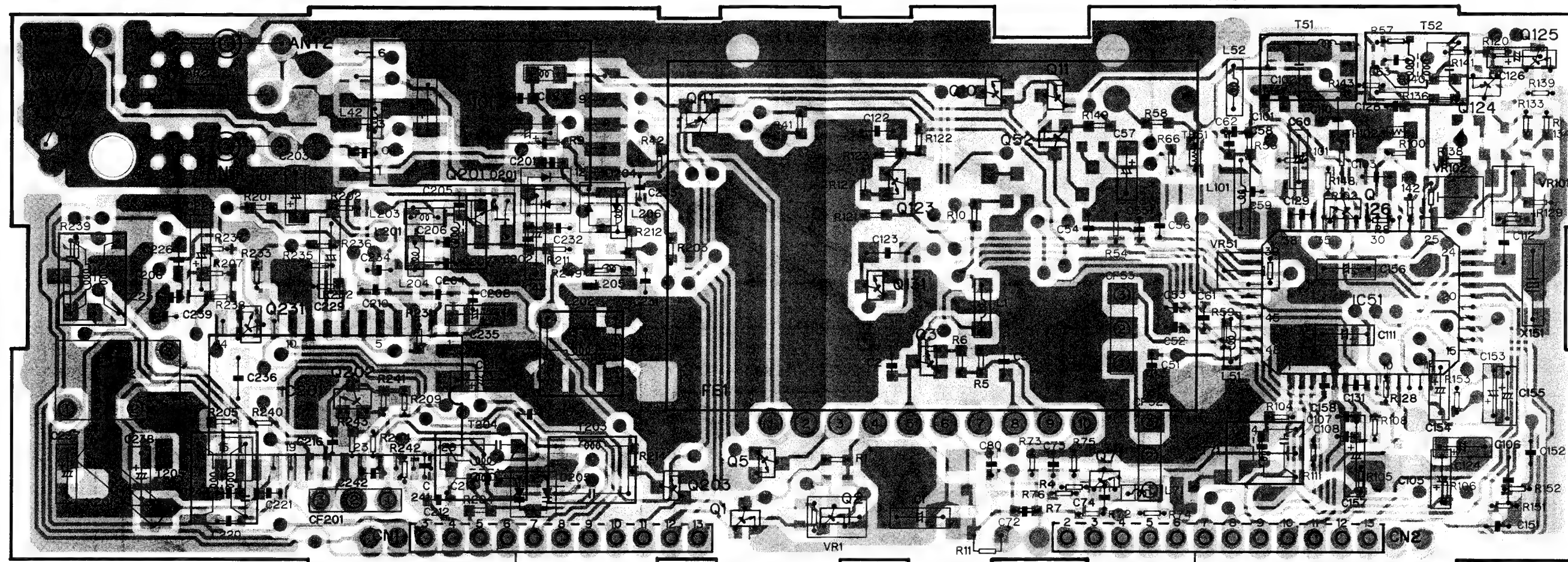


Fig.37

●Connection Diagram

FM/AM UNIT

IC. Q	Q231	Q202	IC201	Q201	IC1	Q203	Q41	Q1	Q5	Q2	Q131	Q123	Q3	Q10	Q11	Q52	Q71	Q126	IC51	Q124	Q125	
ADJ	T206	T205	T204															T71	T51	T52	VR102	VR101
																		VR51				



MOTHER P.C. BOARD
CN501

MOTHER P.C. BOARD
CN501

Fig.38

7.EXPLODED VIEW (1)

A

B

C

D

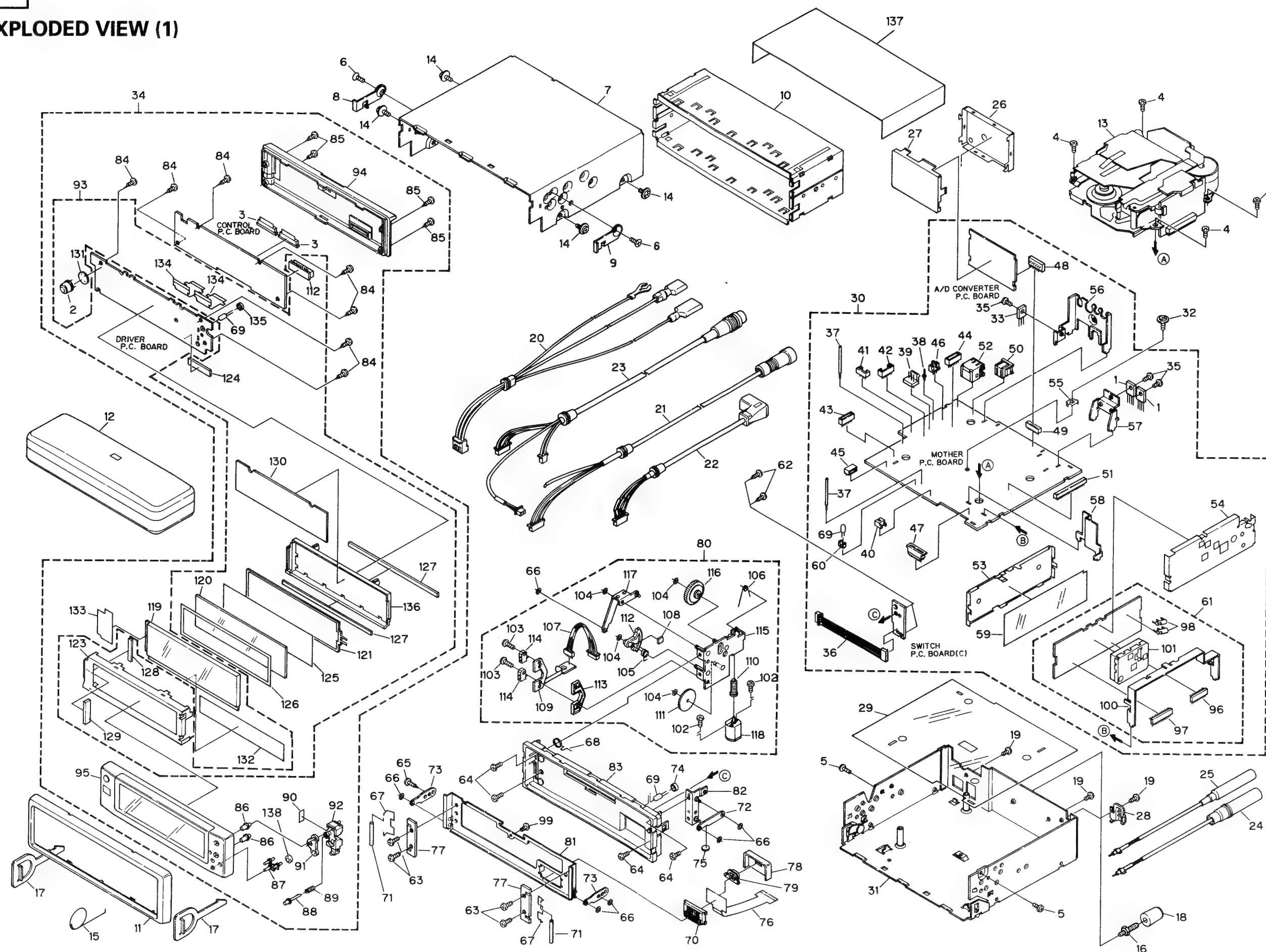


Fig.39

NOTES:

- Parts marked by "*" are generally unavailable because they are not in our Master Spare Parts List.
- Parts marked by "◎" are not always kept in stock.Their delivery time may be longer than usual or they may be unavailable.

●Parts List(RS-K1/EW)

Mark No.	Description	Part No.	Mark No.	Description	Part No
1	IC(IC956,957)	AN6540	40	Plug(CN952)	CKS-766
2	IC(IC903)	BX-1393	41	Plug(CN754)	CKS-786
3	Connector(CN902,903)	CKS2415	42	Plug(CN954)	CKS-788
4	Screw	BMZ26P050FMC	43	Plug(CN753)	CKS1040
5	Screw	BMZ30P040FMC	44	Plug(CN852)	CKS1040
6	Screw	CMZ40P060FMC	45	Plug(CN752)	CKS1051
7	Case	CNB1696	46	Plug(CN953)	CKS1222
8	Holder	CNC3348	47	Plug(CN751)	CKS1436
9	Holder	CNC3349	48	Connector(CN703)	CKS1722
10	Holder	CNC5072	49	Plug(CN702)	CKS1756
11	Panel	CNS2668	50	Connector(CN701)	CKS1940
12	Case Assy	CXA5771	51	Connector(CN401)	CKS2189
13	Cassette Mechanism Module	CXK1870	52	Connector(CN851)	CKS2480
14	Screw	PMS30P050FZK	53	Case	CNB1414
15	Spring	CBH-865	54	Case	CNB1658
16	Screw	CBA1002	55	Holder	CNC2218
17	Holder	CNC3343	56	Holder	CNC4708
18	Bush	CNV1009	57	Holder	CNC4859
19	Screw	BMZ30P040FMC	58	Holder	CNC5032
20	Cord Assy	CDE3935	59	Insulator	CNM2891
21	Cord	CDE3936	60	Holder	CNV1906
22	Cord	CDE3937	61	FM/AM Unit	CWE1321
23	Connector Cord	CDE4043	62	Screw	BPZ20P050FMC
24	Antenna Cable	CDH1169	63	Screw	CBA1082
25	Antenna Cable	CDH1170	64	Screw	CBA1154
26	Holder	CNC4706	65	Screw	CBA1254
27	Shield	CNC4707	66	Washer	CBF1039
28	Holder	CNC4709	67	Spring	CBH1516
29	Insulator	CNM3595	68	Spring	CBH1561
30	Audio Tuner Unit	CWM3435	69	Lamp	CEL1150
31	Chassis Unit	CXA6275	70	Socket	CKS2497
32	Screw	PMS30P050FMC	71	Roller	CLA2041
33	Transistor(Q772)	2SD1189	72	Arm	CNC4730
34	Detach Grille Assy	CXA5378	73	Arm	CNC4731
35	Screw	BMZ30P060FMC	74	Spacer	CNM1642
36	Cord(CN755)	CDE3939	75	Cushion	CNM2247
37	Clamper	CEF1005	76	P.C.Board	CNP3292
38	Terminal(CN757)	CKF-047	77	Holder	CNV3445
39	Plug(CN951)	CKS-556	78	Holder	CNV3446
			79	Rubber	CNV3545

Mark No.	Description	Part No.	Mark No.	Description	Part No
80	Drive Assy	CXA5376	110	Gear	CNV2389
81	Holder Unit	CXA5426	111	Gear	CNV3442
82	Holder Unit	CXA5428	112	Gear	CNV3443
83	Panel Unit	CXA6093	113	Spacer	CNV3444
84	Screw	BPZ20P060FMC	114	Switch(S751,752)	CSN1022
85	Screw	BPZ20P060FZK	115	Holder Assy	CXA5420
86	Button	CAC3541	116	Gear Unit	CXA5423
87	Button	CAC3542	117	Arm Unit	CXA5424
88	Button	CAC3543	118	Motor(M751)	CXM1085
89	Spring	CBH1511	119	LCD	CAW1189
90	Seal	CNM3645	120	LCD	CAW1190
91	Cushion	CNM3674	121	EL	CEL1323
92	Lens	CNV3428	122	Plug(CN901)	CKS2496
93	Display Unit	CWM3455	123	Holder	CNC4721
94	Cover Unit	CXA5413	124	Spacer	CNM3588
95	Grille Unit	CXA5589	125	Plate	CNM3589
96	Plug(CN1)	CKS1619	126	Spacer	CNM3591
97	Plug(CN2)	CKS1621	127	Spacer	CNM3617
98	Antenna Jack(ANT1,2)	CKX1010	128	Spacer	CNM3618
99	Screw	CBA1120	129	Spacer	CNM3619
100	Holder	CNC3506	130	Spacer	CNM3675
101	FM Front End	CWB1070	131	Sheet	CNM3854
102	Screw	CBA1062	132	P.C.Board	CNP3328
103	Screw	CBA1255	133	P.C.Board	CNP3329
104	Washer	CBF1039	134	P.C.Board	CNP3345
105	Spring	CBH1512	135	Bush	CNV-724
106	Spring	CBH1513	136	Housing	CNV3429
107	Connector	CDE3938	137	Spacer	CHW1154
108	Spacer	CNM3780	138	Cushion	CNM3901
109	P.C.Board	CNP3311			

●The RS-K1/UC and RS-K1/ES Parts Lists enumerate the parts which differ from those enumerated in the RS-K1/EW Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer,accordingly. The RS-K1/EW Parts List is given on page 85.

Mark No.	Description	RS-K1/EW	RS-K1/UC	RS-K1/ES
		Part No	Part No	Part No
7	Case	CNB1696	CNB1747	CNB1696
30	Audio Tuner Unit	CWM3435	CWM3439	CWM3437
31	Chassis Unit	CXA6275	CXA6276	CXA6276
34	Detach Grille Assy	CXA5378	CXA5382	CXA5380
61	FM/AM Unit	CWE1321	CWE1323	CWE1320
95	Grille Unit	CXA5589	CXA5591	CXA5589
97	Plug(CN2)	CKS1621	CKS1620	CKS1620

8. CASSETTE MECHANISM MODULE EXPLODED VIEW (X-0RS MECHANISM)

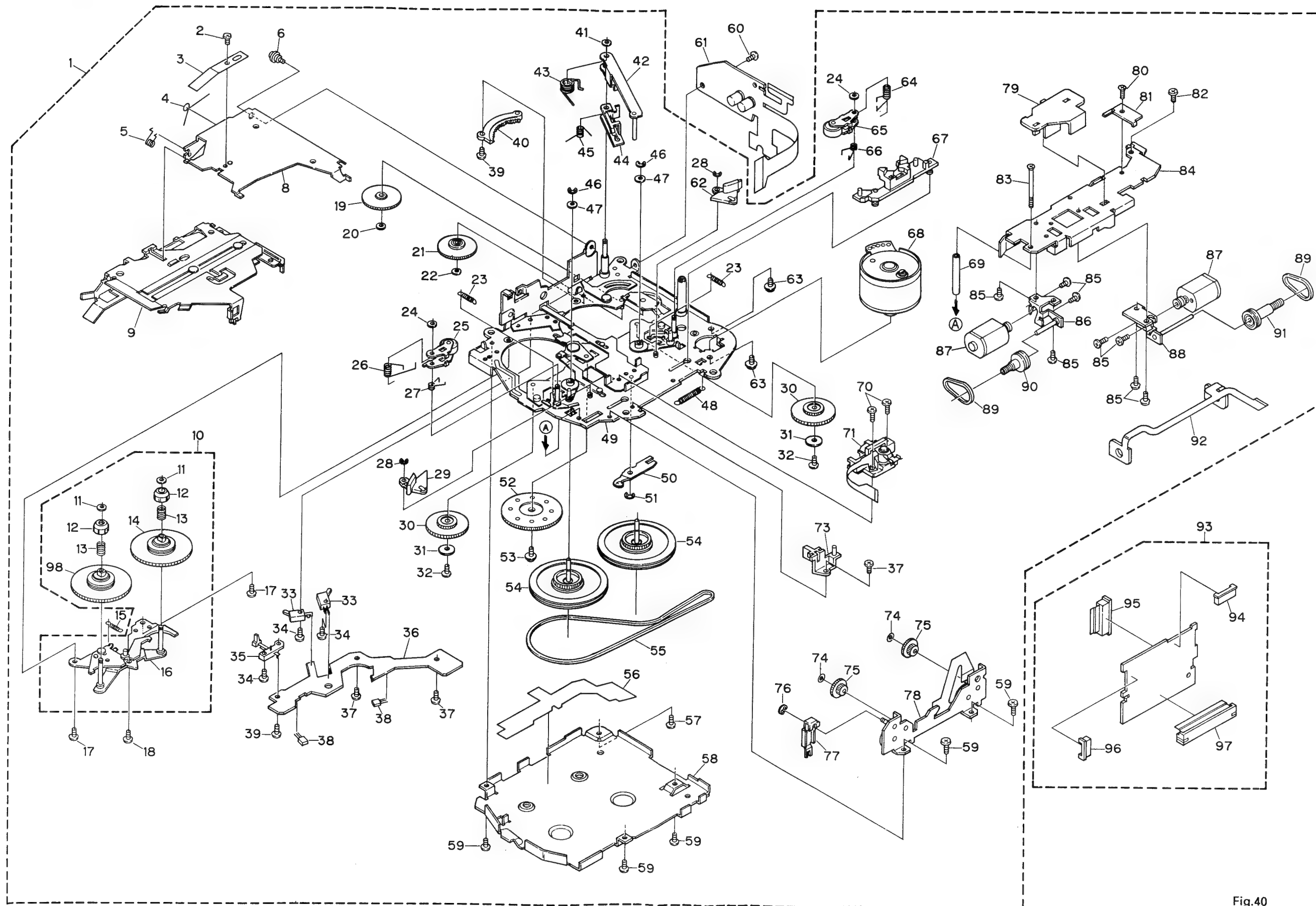


Fig. 40

●Parts List

Mark No.	Description	Part No	Mark No.	Description	Part No
1	Cassette Mechanism Unit	CXA5785	44	Arm	CNG-618
2	Screw(M1.4×1.4)	HBA-147	45	Spring	CBH-886
3	Spring	CBE1023	46	Washer	CBG1003
4	Spring	CBH-867	47	Washer	HBH-179
5	Spring	CBH-837	48	Spring	CBH-830
6	Screw	CBA1243	49	Chassis Unit	CXA4575
7	.....		50	Spring	CBL1050
8	Arm	CNC2373	51	Washer	YE12FUC
9	Holder Unit	CXA4580	52	Gear	CNW-944
10	Reel Assy	CXA4581	53	Screw(M2×4)	CBA1106
11	Washer	CBF1022	54	Flywheel	CNR1322
12	Collar	CNW-932	55	Belt	CNT1046
13	Spring	CBH-827	56	Insulator	CNM2592
14	Reel Unit	CXA5076	57	Screw(M2×6)	CBA1004
15	Spring	CBH-868	58	Cover	CNC4106
16	Bracket Unit	CXA1481	59	Screw	BMZ20P025FMC
17	Screw	BMZ20P030FMC	60	Screw(M2×4)	CBA1015
18	Screw(M1.7×3)	CBA-186	61	Control Unit	CWM2727
19	Gear Unit	CXA4583	62	Arm	CNV1253
20	Washer	CBF1026	63	Screw	PMS26P025FMC
21	Gear	CNV3036	64	Spring	CBH1276
22	Washer	CBF1023	65	Pinch Roller Unit	CXA2608
23	Spring	CBH-835	66	Spring	CBH1196
24	Washer	CBF1025	67	Lever	CNV3195
25	Pinch Roller Unit	CXA2609	68	Motor(Capstan)(M3)	CXM1084
26	Spring	CBH1277	69	Spacer	CNC1651
27	Spring	CBH1197	70	Screw	PMZ20P035FMC
28	Washer	YE25FUC	71	Head Unit(HD1)	CXA4587
29	Arm	CNV1254	72	.....
30	Gear	CNV1616	73	Clamper	CNV3186
31	Collar	CLA1238	74	Washer	CBF-135
32	Screw(M2×2.5)	HBA-175	75	Gear	CNV1262
33	Switch(70 μS, CST IN) (S2,3)	CSN1023	76	Washer	YE15FUC
34	Screw(M1.7×5.5)	CBA1025	77	Arm	CNH-004
35	Switch(CST SET)(S1)	CSN-089	78	Hold Assy	CXA5016
36	P.C.Board	CNP2880	79	Clamper	CNV3039
37	Screw(M2×2.5)	CBA1037	80	Screw	HBA-212
38	Magnetic Resistive Device(MR1,2)	DM-106B	81	Plate	CNC3632
39	Screw(M2×5)	CBA1054	82	Screw(M1.7×3)	CBA1125
40	Gear	CNV1075	83	Screw(M2×25)	CBA-165
41	Washer	CBF-088	84	Guide	CNC4087
42	Arm Unit	CXD-389	85	Screw(M2×2.2)	HBA-174
43	Spring	CBH-887	86	Bracket Unit	CXA4578
			87	Motor Unit(FF/REW,Head) (M1,2)	CXA4577

Mark No.	Description	Part No
88	Bracket Unit	CXA4576
89	Belt	CNT1054
90	Pulley	CNV3044
91	Pulley	CNV3037
92	P.C.Board	CNP2878
93	Deck Unit	CWM3449
94	Connector(8P)(CN253)	CKS2129
95	Connector(18P)(CN254)	CKS2122
96	Connector(6P)(CN251)	CKS2127
97	Connector(30P)(CN252)	CKS2188
98	Reel Unit	CXA5077

9. EXPLODED VIEW(2)

●Parts List

Mark No.	Description	Part No.
1	Cord(EW)	CDE3945
	Cord(US,ES)	CDE3933
2	Cap	CNS1472
3	Resistor	RS1/2P102JL
4	Screw	BMZ30P050FZK
5	Connector Assy	CDE4044
6	Chassis	CNA1531
7	Case	CNB1731
8	Shield	CNC4864
9	Shield	CNC4865
* 10	Insulator	CNM3843
* 11	Seal	CNM3844
12	Power Supply Unit	CWR1045
13	Screw	PPZ26P050FMC
14	Screw	BMZ30P060FMC

Mark No.	Description	Part No
15	Plug(CN1001)	CKS-461
16	Plug(CN1005)	CKS-784
17	Plug(CN1004)	CKS-790
18	Shield Plate	CNC3377
19	Shield Case	CNC3398
20	Holder	CNC4876
21	Inverter(INV100)	CTX1040
22	Transistor(Q1003)	2SD1189
23	Antenna Unit	CXA5526
24	Element Assy	CZX4532
25	Base Assy	CZX4533
26	Feeder Assy	CZX4534

●Exploded View (2)

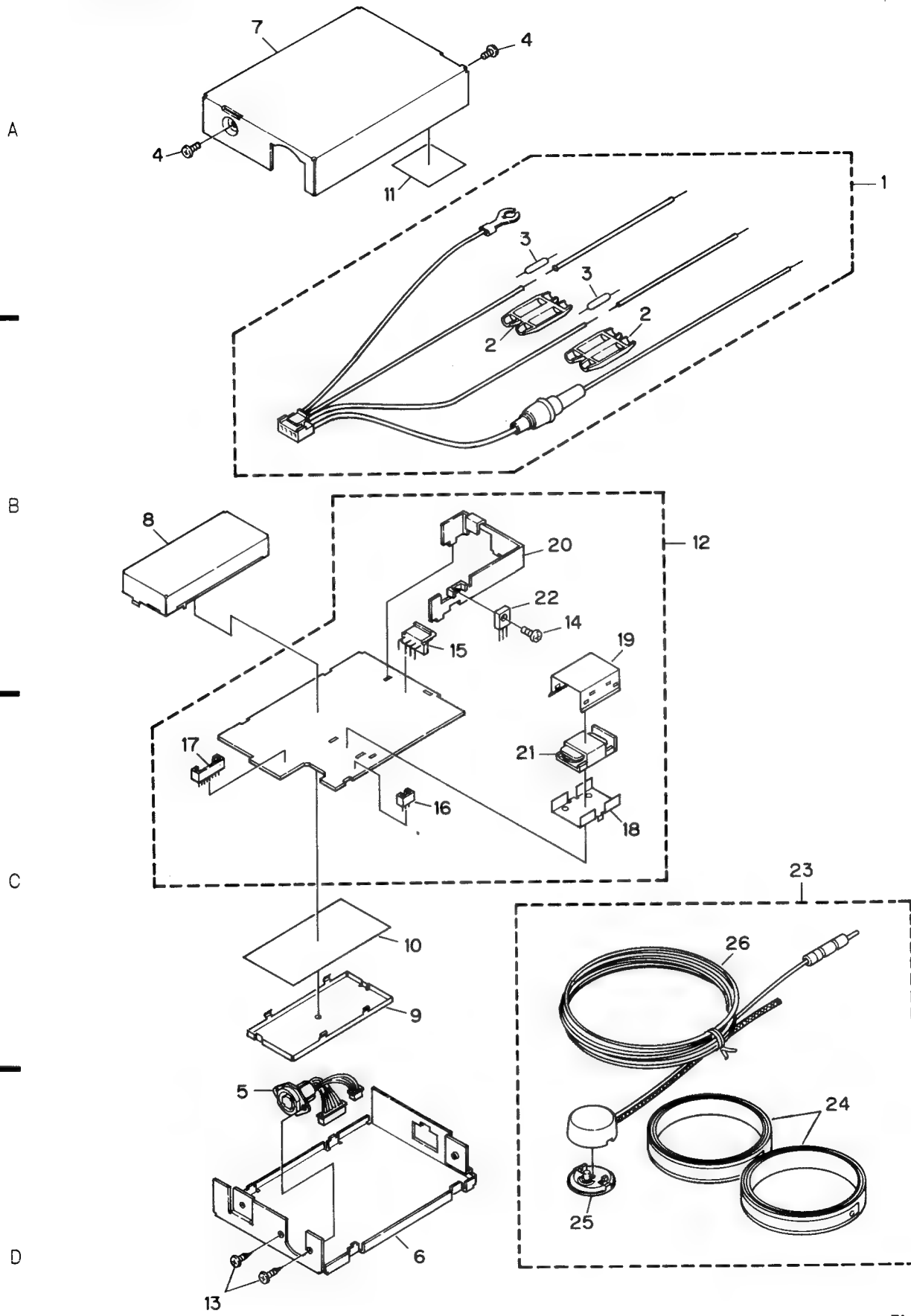


Fig.41

10. FREE SPACE REMOTE CONTROL EXPLODED VIEW

●Parts List(RS-K1/EW)

Mark No.	Description	Part No	Mark No.	Description	Part No
1	Button(DETACH)	CAC3482	36	Switch(S25:DOOR)	CSN-078
2	Button	CAC3878	37	Remote Control Assy	CWM3517
3	Button(CD PAUSE)	CAC3484	38	Base Assy	CXA5569
4	Button(MENU)	CAC3485	39	Door Unit	CXA5754
5	Button	CAC3879	40	Grille Unit	CXA6016
6	Button(CHANGE/ESCAPE)	CAC3487	41	Screw	BNC40P100FZK
7	Button	CAC3488	42	Cord	CDE4037
8	Button(VOL-)	CAC3489	43	Plug(CN5)	CKS2572
9	Button(ATT)	CAC3490	44	Plug(CN4)	CKS2573
10	Button(VOL+)	CAC3661	45	P.C.Board	CNP3307
11	Screw	CBA1253	46	Connector(CN1)	CKS2191
12	Screw	CBA1263	47	Connector(CN7)	CKS2192
13	Screw	CBA1265	48	Connector(CN6)	CKS2196
14	Screw	CBA1183	49	Screw	BMZ30P060FMC
15	Screw	CBA1281	50	Screw	CBA1262
16	Screw	CBA1282	51	Screw	CBA1264
17	Cord	CDE3990	52	Screw	CBA1279
18	Holder	CNC4792	53	Screw	CBA1282
19	Holder	CNC4793	54	Spring	CBH1524
20	Holder	CNC4794	55	Cord	CDE3946
21	Bracket	CNC4913	56	Holder	CNC4682
22	Cushion	CNM3892	57	Base	CNS2633
23	Sheet	CNM3718	58	Base	CNS2634
24	Spacer	CNM3760	59	Base	CNS2674
25	Spacer	CNM3818	60	Cover	CNS2675
26	Film	CNM3819	61	Spring Unit	CXA5353
* 27	Film	CNM3820	62	Switch(S2:BATTERY)	CSH1032
28	Lower Case	CNS2630	63	Free Space Remote Control	CPX1015
29	Battery Cover	CNS2631			
30	Plate	CNS2632			
31	Base	CNS2676			
32	Guide	CNV3393			
33	Guide	CNV3394			
34	Lens	CNV3395			
35	Lens	CNV3396			

●The RS-K1/UC and RS-K1/ES Parts Lists enumerate the parts which differ from those enumerated in the RS-K1/EW Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly.

Mark No.	Description	RS-K1/EW	RS-K1/UC	RS-K1/ES
		Part No	Part No	Part No
37	Remote Control Assy	CWM3517	CWM3515	CWM3515
39	Door Unit	CXA5754	CXA5945	CXA5754
40	Grille Unit	CXA6016	CXA6015	CXA6017
63	Free Space Remote Control	CPX1015	CPX1021	CPX1022

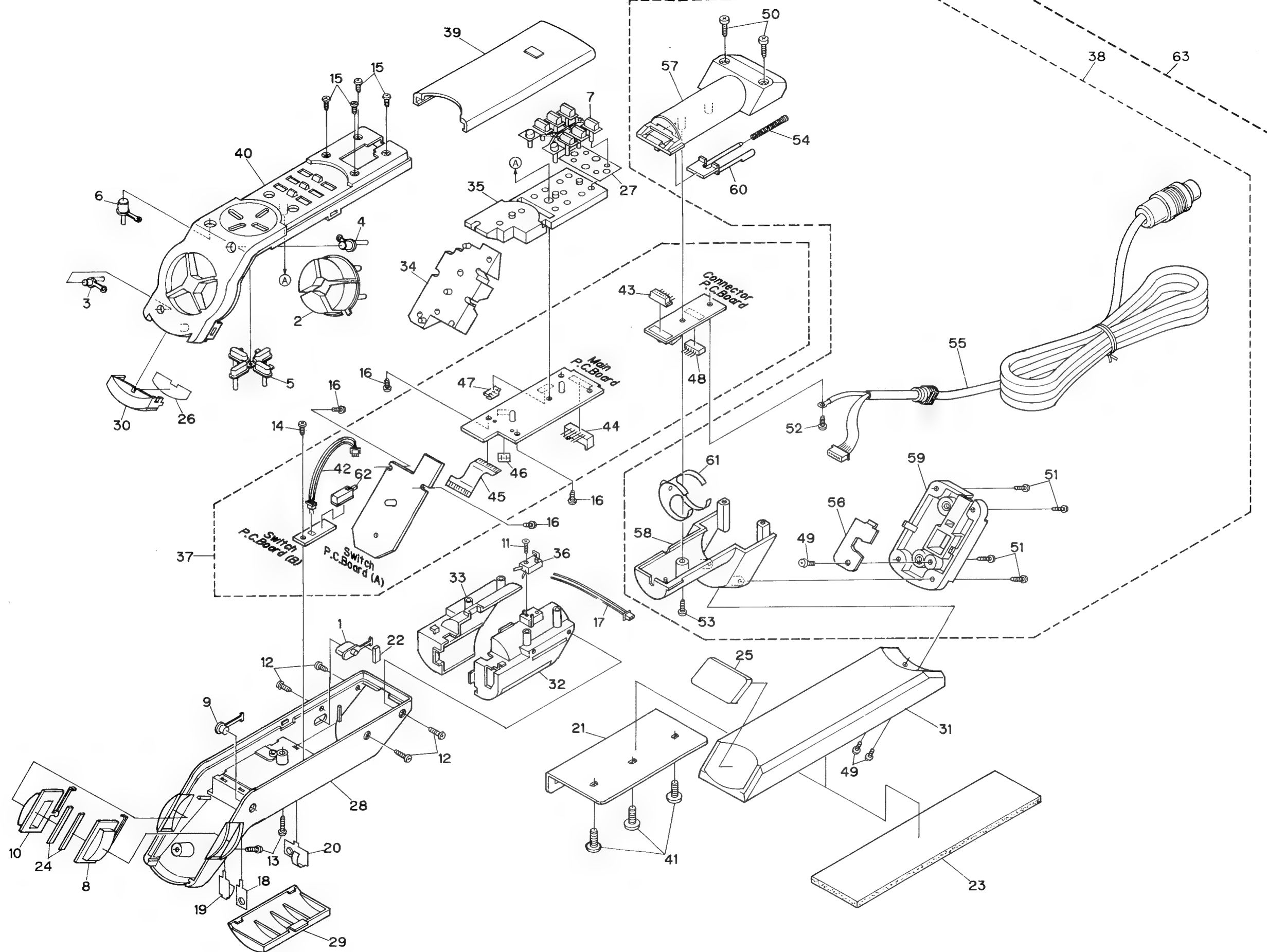


Fig.42

11. PACKING METHOD

11.1 GENERAL

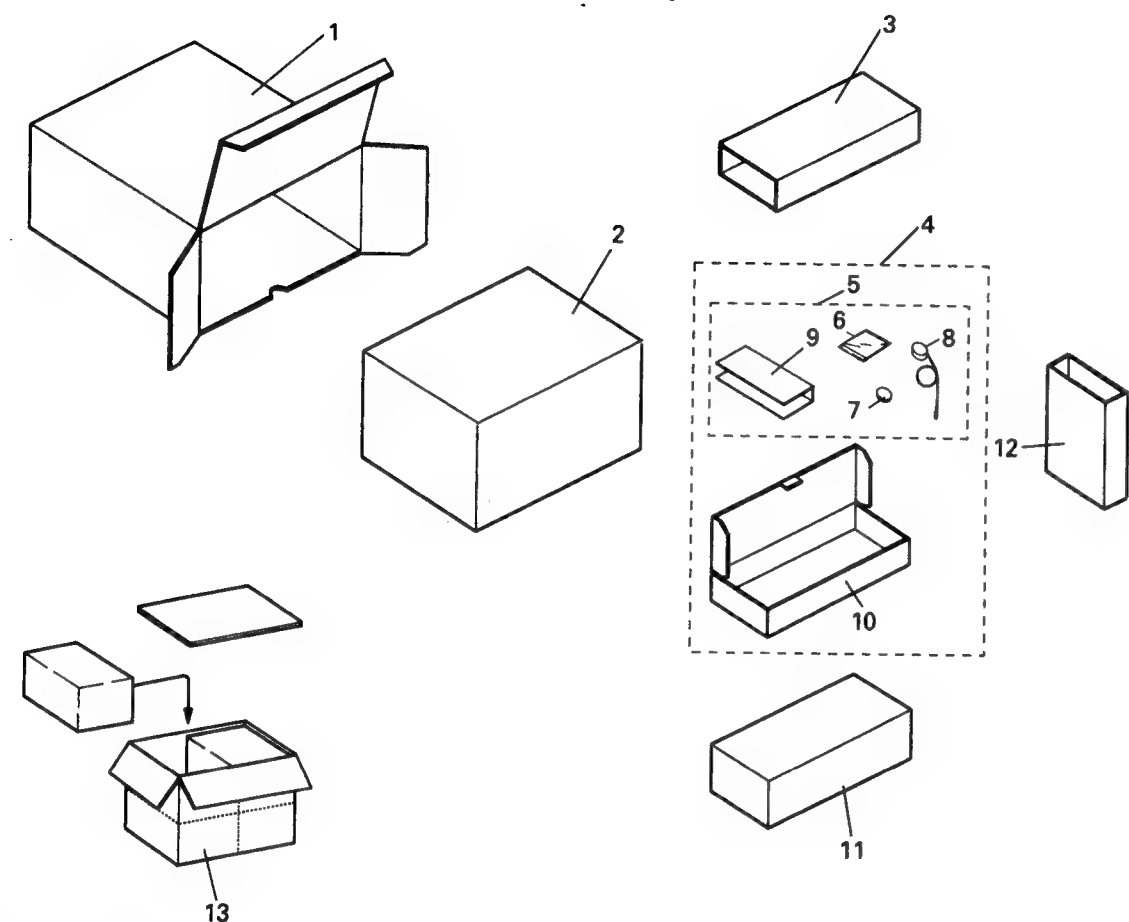


Fig.43

●Parts List(RS-K1/EW)

Mark No.	Description	Part No
1	Carton	CHG2374
* 2	Tuner Deck	CPN1186
3	Spacer	CWH1312
4	Antenna Assy	CXA5784
5	Antenna Unit	CXA5526
6	Accessory Assy	CEA1792
* 6-1	Base Gauge	CZH4528
7	Base Assy	CZX4533
7-1	Double-side Seal	CZN4571
8	Feeder Assy	CZX4534

Mark No.	Description	Part No
9	Element Assy	CZX4532
* 10	Carton	CHG2320
11	Free Space Remote Control	CPX1015
12	Spacer	CWH1313
13	Contain Box	CHL2374

11.2 TUNER DECK

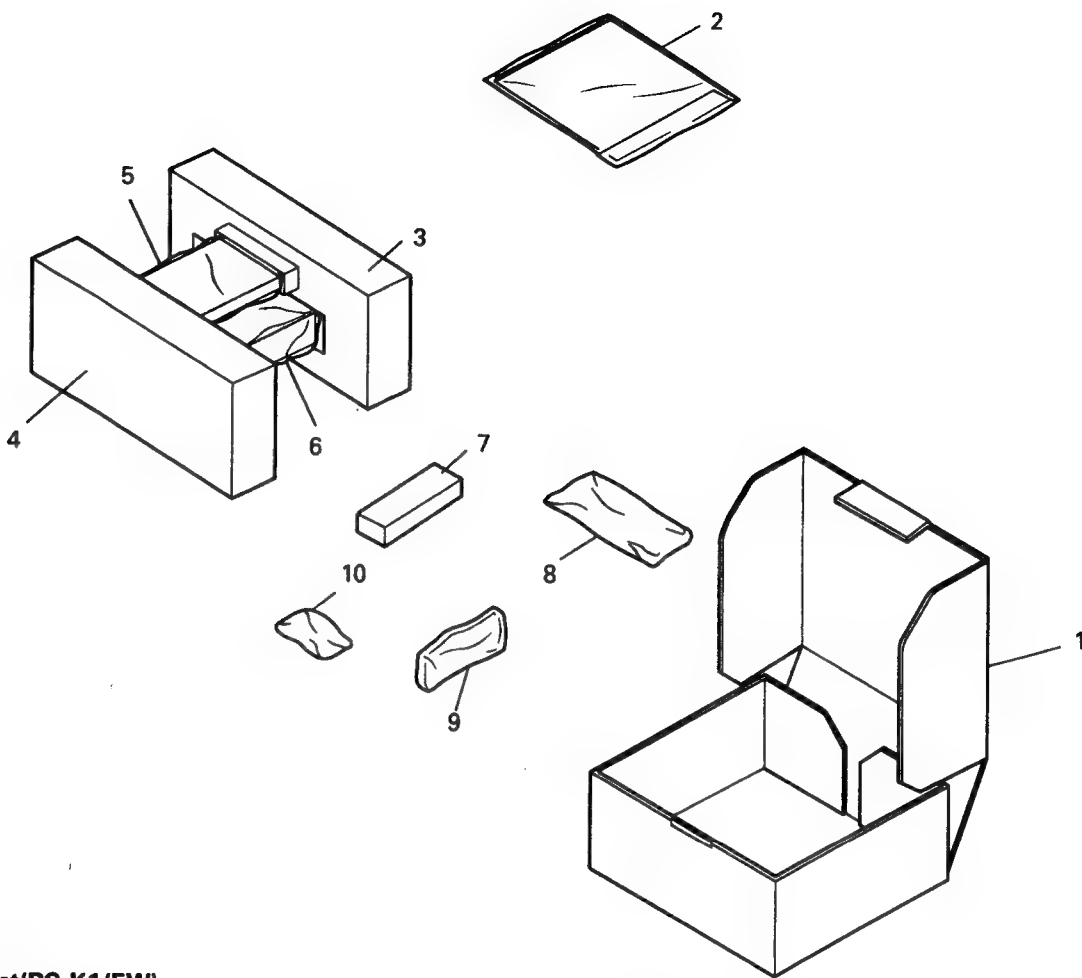


Fig.44

●Parts List(RS-K1/EW)

Mark No.	Description	Part No
1	Carton	CHG2371
2-1	Owner's Manual	CRB1308
2-2	Owner's Manual	CRB1304
* 2-3	Caution Card	CRP1122
* 2-4	Passport	CRY1013
* 2-5	Card	CRY-062
* 2-6	Polyethylene Bag	E36-634
3	Protector(L)	CHP1600
4	Protector(R)	CHP1601
* 5	Polyethylene Bag	CEG-172
6	Cover	CEG1064
7	Case Assy	CXA5771
8	Accessory Assy	CEA1641
8-1	Screw Assy	CEA1872
8-1-1	Screw (X4)	BMZ40P080FMC

Mark No.	Description	Part No
8-1-2	Screw (X4)	BMZ50P080FMC
8-1-3	Screw (X1)	CBA1002
* 8-1-4	Polyethylene Bag	CEG-127
8-2	Spring	CBH-865
* 8-3	Holder(X2)	CNC3343
8-4	Bush	CNV1009
* 8-5	Polyethylene Bag	E36-613
9	Cord	CDE3945
10	Accessory Assy	CEA1896
10-1	Screw(X1)	BPZ20P060FZK
10-2	Screw(X1)	CBA1120
10-3	Holder(X1)	CNC4911
* 10-4	Installation Manual	CRB1297
* 10-5	Polyethylene Bag	CEG1101

11.3 FREE SPACE REMOTE CONTROL

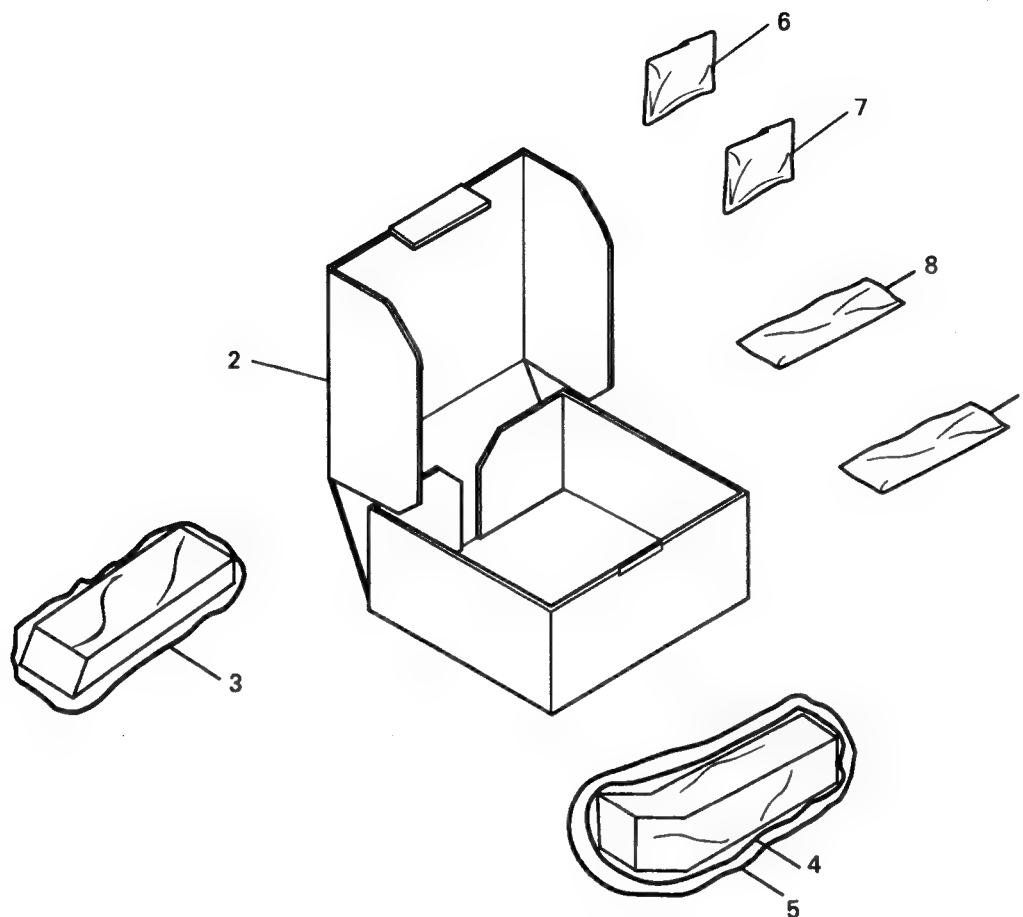


Fig.45

●Parts List(RS-K1/EW)

Mark No.	Description	Part No
1	Seat	CNM3718
2	Sub Carton	CHG2345
3-1	Base	CNS2676
3-2	Spacer	CNM3818
3-3	Cover	CEG1073
* 4	Cover	CEG1083
5	Air Cushioned Bag	CEG1143
6	Accessory Assy	CEA1831
6-1	Screw(X2)	BMZ30P060FMC
6-2	Screw(X3)	BNC40P100FZK

Mark No.	Description	Part No
6-3	Screw(X3)	BPZ30P100FZK
* 6-4	Polyethylene Bag	E36-613
* 7	Battery	CEX1021
8	Bracket	CNC4913

●The RS-K1/UC and RS-K1/ES Parts Lists enumerate the parts which differ from those enumerated in the RS-K1/EW Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The RS-K1/EW Parts List is given on page 95.

●General

Mark No.	Description	RS-K1/EW	RS-K1/UC	RS-K1/ES
		Part No	Part No	Part No
1	Carton	CHG2374	CHG2375	CHG2376
* 2	Tuner Deck	CPN1186	CPN1220	CPN1221
11	Free Space Remote Control	CPX1015	CPX1021	CPX1022
13	Contain Box	CHL2374	CHL2375	CHL2376

●Tuner Deck

Mark No.	Description	RS-K1/EW	RS-K1/UC	RS-K1/ES
		Part No	Part No	Part No
1	Carton	CHG2371	CHG2372	CHG2373
2-1	Owner's Manual	CRB1308	CRB1275	CRB1276
* 2-4	Passport	CRY1013	.....	.....
* 2-5	Card	CRY-062	.....	.....
* 2-7	Warranty Card	.....	CRY1053	.....
8	Accessory Assy	CEA1641	CEA1615	CEA1615
8-1	Screw Assy	CEA1872	CEA1632	CEA1632
8-1-5	Screw(X1)	.....	BPZ20P040FZK	BPZ20P040FZK
8-1-6	Screw(X1)	.....	CBA-102	CBA-102
8-1-7	Nut(X2)	.....	NF50FMC	NF50FMC
* 8-5	Polyethylene Bag	E36-613	CEG-158	CEG-158
8-6	Strap	.....	CNF-111	CNF-111

●Free Space Remote Control

Mark No.	Description	RS-K1/EW	RS-K1/UC	RS-K1/ES
		Part No	Part No	Part No
2	Sub Carton	CHG2345	CHG2346	CHG2347

12.ELECTRICAL PARTS LIST

NOTE:

● Parts whose parts numbers are omitted are subject to being not supplied.

● The part numbers shown below indicate chip components.

Chip Resistor

RS1/OS0000J, RS1/OOS0000J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

●Parts List(RS-K1/EW)

====Circuit Symbol & No. Part Name=====	Part No.	====Circuit Symbol & No. Part Name=====	Part No.
Unit Number : CWE1321		RESISTORS	
Unit Name : FM/AM Unit			
MISCELLANEOUS			
IC 1	KHA273B	R 1	RS1/16S562J
IC 51	PA4019A	R 4	RS1/16S102J
IC 201	PAF001A	R 5	RS1/16S472J
Q 1 5	DTC124EU	R 6	RS1/16S392J
Q 2 10 131 132 203	DTC124EU	R 7 8	RS1/16S0R0J
Q 3 71 123	2SC4116	R 10	RS1/16S472J
Q 11	DTC124EU	R 41	RS1/16S683J
Q 41	2SB709	R 42	RS1/16S154J
Q 51	DTC124EU	R 54	RS1/10S562J
Q 52	2SC4116	R 56	RS1/16S333J
Q 126	2SC4116	R 57 66 100	RS1/16S153J
Q 201	FC12(12G)	R 58	RS1/16S273J
Q 202	2SC4116	R 59 74	RS1/16S331J
Q 231	DTC124EU	R 72	RS1/16S123J
D 201 204	MA157-MR	R 73	RS1/16S103J
D 205	SVC203CP	R 75	RS1/16S102J
L 1 Inductor	LCTA150K3225	R 76	RS1/16S221J
L 2 Inductor	LCTBR12K3125	R 101	RS1/10S331J
L 41 Inductor	LCTB1R0K2125	R 102 111	RS1/16S183J
L 42 Inductor	LCTBR15K2125	R 104	RS1/16S102J
L 51 Inductor	LCTA150K3225	R 105	RS1/16S333J
L 52 Inductor	LCTA220K3225	R 106	RS1/16S684J
L 71 Inductor	LCTB3R9K2125	R 108	RS1/16S333J
L 101 Inductor	LCTA102K4532	R 121 149	RS1/16S104J
L 201 Coil	CTB1086	R 122	RS1/16S124J
L 202 Coil	CTB1082	R 123	RS1/16S273J
L 203 Inductor	LCTB390K2125	R 127	RS1/16S103J
L 204 Inductor	LCTB680K2125	R 128	RS1/16S103J
L 205 Inductor	CTF1198	R 129	RS1/16S184J
L 206 Inductor	CTF1197	R 132	RS1/16S0R0J
T 51 Coil	CTE1067	R 137	RS1/16S223J
T 52 Coil	CTE1068	R 142	RS1/16S473J
T 71 Coil	CTE1058	R 143	RS1/16S393J
T 203 Coil	CTB1087	R 148	RS1/10S222J
T 204 Coil	CTE1064	R 151 152	RS1/16S332J
T 205 Coil	CTE1060	R 153	RS1/16S222J
T 206 Coil	CTE1061	R 201	RS1/16S220J
TH 51 Thermister	DTN-T204D333K	R 202	RS1/10S681J
TH 102 Thermister	CCX1021	R 203	RS1/16S222J
CF 52 53 Ceramic Filter	CTF1193	R 204	RS1/16S473J
CF 201 Crystal Filter	CTF1262	R 205 209	RS1/16S470J
CF 202 Ceramic Filter	CTF1191	R 207	RS1/10S822J
X 151 Ceramic Resonator 456kHz	CSS1075	R 211 212 236 237 238	RS1/16S103J
X 201 Crystal Resonator 10.26MHz	CSS1094	R 214	RS1/16S182J
VR 1 Semi-fixed 22kΩ(B)	CCP1183	R 231	RS1/16S823J
VR 51 101 102 Semi-fixed 33kΩ(B)	CCP1184	R 232	RS1/10S102J
AR 1 DSP-141N	DSP-141N	R 233	RS1/16S222J
AR 2 DSP-141N	DSP-141N	R 235	RS1/16S104J
FE 1 FM Front End	CWB1070	R 239	RS1/16S392J
		R 240	RS1/16S473J

====Circuit Symbol & No. Part Name=====	Part No.	====Circuit Symbol & No. Part Name=====	Part No.
R 241 242	RS1/16S103J	Unit Number :	
R 243	RS1/16S152J	Unit Name : Control Unit	
R 244	RS1/16S242J		
R 249	RS1/16S225J	IC 901	PA3028A
CAPACITORS		R 901 902 903	RS1/8S0R0J
C 1 111 125	CEV100M16	C 901 902 910 47μF/16V	CCH1123
C 2 51 59	CKSRYF473Z25	C 903 904 905 906 907 908	CKSQYB473K50
C 5	CKSQYB472K50	C 909	CKSYF684Z16
C 41 43	CSZSR100M10	C 911	CKSQYB223K50
C 42	CKSRYB103K25		
C 44	CSZSC220M10	Audio Tuner Unit	
C 45	CCSRCH220J50	Consists of	
C 52 53 61	CKSRYB223K25	•Mother P.C.Board	
C 54	CCSQCH101J50	•A/D Converter P.C.Board	
C 56	CKSRYF104Z25	•Switch P.C.Board(C)	
C 57	CSZSR33M25	Unit Number : CWM3435	
C 58	CCSRCH070D50	Unit Name : Audio Tuner Unit	
C 60	CEVNP100M10	MISCELLANEOUS	
C 62	CCSRPH820J50	IC 451 452	BA3129F
C 63	CCSRPH470J50	IC 453 454	NJM4558M
C 72 73 80 104	CKSRYB103K50	IC 501	LC72140M
C 74 129 158	CKSRYF473Z25	IC 502	CWV1034
C 101	CKSRYB682K50	IC 601	PD4437A
C 102	CKSRYB682K50	IC 602 603	MSM82C55A-2GS
C 103	CKSQYB392K50	IC 604	LH5116HN-10T
C 105	CEVR47M50	IC 605	PA0054AM
C 106	CKSQYB104K25	IC 701	AK5369-VS
C 107 108	CKSRYB222K50	IC 702	M51581FP
C 110	CKSYB224K25	IC 703	TC74HCU04AF
C 112	CKSYB183K25	IC 751	TK11235
C 122	CKSYB104K50	IC 753	TC7W02F
C 123	CKSYB103K50	IC 754	XRA6288FS
C 124	CSZS3R3M10	IC 851	TA8181F
C 127	CEV4R7M35	IC 852 951	PML001A
C 128	CKSRYB223K25	IC 853	PD4308AM
C 131	CCSRCH820J50	IC 854	PA0051AM
C 132 153	CSZSR47M20	IC 953	NJM78L05A
C 151 152	CKSQYB183K25	IC 954	NJM78L05UA
C 154 155 156	CEV3R3M50	IC 955	NJM79L05UA
C 157	CEV101M10	IC 956 957	AN6540
C 201 216 241	CKSRYB103K50	Q 451 452	DTC343TK
C 202 212	CKSRYB332K50	Q 455 456 758 766 769	DTC114TK
C 203	CSZS3R3M10	Q 457	DTA114EK
C 204	CKSQYB223K25	Q 501	2SC2498
C 205	CCSRCH120J50	Q 503 505 508 509 510 753 754 855	2SC2712
C 206	CCSRCH560J50	Q 504	2SK208
C 207	CCSRCH680J50	Q 506	2SK208
C 208	CKSRYB223K25	Q 507 517	DTC124EK
C 210	CKSQYB103K50	Q 516	2SC2712
C 211 235	CEVR47M50	Q 518	DTC144TK
C 213	CCSQCH330J50	Q 601 961	2SA1162
C 215	CKSRYF473Z25	Q 602 603 759 771 776 854	DTC114TK
C 220	CCSRCH430J50	Q 704	2SC1821
C 221	CCSRCH120J50	Q 752 856	2SA1036K
C 224 229	CEV470M16	Q 755 757 951 952 966	2SC2712
C 225	CKSQYB333K25	Q 756	DTA144EK
C 226	CKSQYB473K25	Q 760 957	2SB1238
C 231	CCSRCH100D50	Q 761	2SC1621
C 232 234 244	CKSRYB103K50	Q 765 954	2SA1162
C 233	CKSRYF473Z25	Q 767	2SA1298
C 236	CKSYB104K50	Q 768	2SC3295
C 237	CEV4R7M35	Q 770	DTA114EK
C 238	CEV3R3M50	Q 772	2SD1189
C 239	CKSRYB223K25		
C 242	CCSRCH030C50		

====Circuit Symbol & No. Part Name=====	Part No.	====Circuit Symbol & No. Part Name=====	Part No.
Q 773	DTA124EK	R 467 468	RN1/10SE133D
Q 775	DTA143EK	R 469 470	RN1/10SE203D
Q 799	2SC3295	R 471 565 566	RN1/10SE103D
Q 955	2SD1864	R 473 474	RN1/10SE104D
Q 958 959	DTC114EK	R 475 476 552 645	RS1/10S103J
Q 960 965	2SA1298	R 479 480 510 546 859 959 961	RS1/10S472J
Q 964	2SB1132	R 482 486	RS1/10S104J
D 451	MA151WA-MN	R 483 484	RS1/10S683J
D 453 454 455 856	MA110-1A	R 487 545 551 636 644 711 724	RS1/10S104J
D 457	MA153-MC	R 488 513 520 529 539 540 541 542 543	RS1/10S102J
D 459 460 857 955	MA151WK-MT	R 489 647 648 761 788 789 794 962 971	RS1/10S102J
D 501	MA3027H	R 501	RS1/10S331J
D 502	MA3027H	R 502	RS1/10S182J
D 503	MA3047M	R 503 505 874 875	RS1/10S101J
D 504 505 506 762	MA151WK-MT	R 504	RS1/10S821J
D 751 753 754 755 756 758	HSM123	R 511 517 518 519	RS1/10S102J
D 761	MA3062L	R 512	RS1/10S152J
D 763 764	MA110-1A	R 515 555	RS1/10S222J
D 852 853 956 957 958	ERA15-02	R 521 567 602 617 619 620 722 778	RS1/10S102J
D 854 855	MA3180M	R 524 615 616 621 622 623 624 772 862	RS1/10S103J
D 952	MA3075H	R 525 526 528 534 535 618 630 631 632 858	RS1/10S222J
D 953	MA3082M	R 527 547 548 549 550 792 798 978 979 980	RS1/10S102J
D 959	MA3056M	R 532 538 569 766 776	RS1/10S472J
D 961	MA3091M	R 533 544 553 570 604 634 638 639	RS1/10S473J
D 962	MA3160H	R 536	RS1/10S333J
D 963	MA3110L	R 554	RS1/10S104J
ZNR751 752 753	ERZ-CF2MK220	R 556	RS1/8S151J
L 501 505	LCYA4R7K3225	R 557 558	RN1/10SE473D
L 502	LCTB2R2K2125	R 571	RS1/10S335J
L 503	LCYA2R2M3225	R 573	RS1/10S181J
L 504 708 953	LCYA2R2M3225	R 601	RS1/10S202J
L 506	LCYA4R7K3225	R 603	RS1/10S223J
L 601 602 603 604	LCTB100K2125	R 627 641	RS1/10S104J
L 701 702 703 704	LCYA100K3225	R 642 643 646 649 712 713 714 716 717 718	RS1/10S473J
L 705	LCTB100K2125	R 650	RS1/10S473J
L 706 707	LCYA1R0M3225	R 705 706	RN1/10SE510D
L 709 710	LCTB1R0K2125	R 709	RS1/10S100J
L 751	LCYA4R7K3225	R 710 791 879 970	RS1/10S473J
L 752	LCYA100K3225	R 719 758 759 760 763 764 767 774 974	RS1/10S473J
L 753	LCTA2R7K4532	R 720	RS1/10S105J
L 755 756	LCTA4R7K4532	R 721 777	RS1/10S112J
TC 601	CCG1002	R 723	RS1/10S391J
X 501	CSS1106	R 725 728	RS1/10S511J
X 601	CSS1070	R 727	RS1/10S511J
X 701	CSS1088	R 729	RS1/10S681J
X 851	CSS1108	R 751 753 754 755	RS1/8S222J
S 751	CSG1035	R 756	RS1/8S222J
IL 751	CEL1150	R 765 872 964	RS1/10S103J
VR 501	CCP1152	R 769	RS1/10S222J
	CWE1321	R 770	RS1/8S222J
BZ 601	CPV1012	R 779 797 861 952 954 966 972 981	RS1/10S472J
RESISTORS		R 780 783 785 860 863 864 865 866 867 983	RS1/10S473J
R 401	RA4C473J	R 781 784 786	RS1/8S222J
R 405 418 609	RA4C222J	R 787	RS1/4S681J
R 410 423	RA2CQ222J	R 793	RS1/10S224J
R 412 413 414	RS1/10S222J	R 795 796	RS1/10S224J
R 422 514	RS1/10S222J	R 851	RN1/10SE181D
R 424 506 509 537 605 606 607 608 613 614	RS1/10S103J	R 852	RN1/10SE181D
R 425 477 478 481 485 522 523 530	RS1/10S473J	R 854	RN1/10SE223D
R 426 427 633 773 775	RS1/10S473J	R 868 869 870 871 951 953 960 968 982	RS1/10S473J
R 451 452 463 559 560 561 562 877	RN1/10SE102D	R 873	RS1/10S620J
R 453 454	RN1/10SE104D	R 958	RS1/10S183J
R 455 456 853	RN1/10SE223D	R 965	RS1/4S220J
R 457 458	RN1/10SE363D	R 969	RS1/4S152J
R 459 460 461 462 472	RN1/10SE103D	R 976	RS1/10S510J
R 464 878	RN1/10SE102D	R 977	RS1/10S221J
R 465 466	RN1/10SE912D		

====Circuit Symbol & No. Part Name=====	Part No.	====Circuit Symbol & No. Part Name=====	Part No.
CAPACITORS		C 984 C 993	
C 402	CKSQYB472K50	CEAS331M10 CEA100M25LS	
C 403	CEA470M16LL	Unit Number : CWM3449	
C 451 452	CEWAR100M16	Unit Name: Deck Unit	
C 453 454 455 456 459 460 461 462	CCSQCH100D50	MISCELLANEOUS	
C 457 458	CEWAR100M16	IC 251	
C 463 464	CEVNP100M16	D 351	
C 465 603 958 983	CEA010M50LS2	VR 301 302	
C 466 468 470 472 962 967 969 971	CEWAR101M10	Semi-fixed 33kΩ(B)	
C 467 469 471 473 601 602 714	CKSQYB473K50	RESISTORS	
C 501 509 511 524 528 529 532	CKSQYB103K50	R 251 252 253 254	
C 502	CCSQCH561J50	R 255 256	
C 503 504 506	CCSQCH101J50	R 257 258	
C 507	CCG1008	R 259 260	
C 508	CCH1005	R 261 262	
C 510	CFTNA474J50	R 265	
C 512	CEAR47M50LS2	R 271 272 273 321 322	
C 513 514	CCSQCH180J50	R 274	
C 515 520 521 522 523	CKSQYB223K50	R 275 402	
C 516	CCSQCH101J50	R 301 302	
C 517 518	CEA4R7M35LS	R 303 304	
C 525 526	CEWAR010M50	R 401	
C 527	CEA100M16LS2	R 403 405	
C 530	CSZSR22M35	R 404	
C 531 874 875	CKSQYB102K50	CAPACITORS	
C 604	CCSQCH150J50	C 251 252 253 254	
C 605	CCSQCH050C50	C 255 256	
C 606	CKSQYB102K50	C 257 258	
C 607 608 708 997 998 999	CKSQYB473K50	1μF/50V(NP)	
C 609 610 611 960 963 978 985 987	CKSQYB473K50	C 265	
C 612 616 877 994 995 996	CKSQYB473K50	C 301 302	
C 613 615 709 711 973 976 979 988 992	CKSQYB103K50	0.47μF/50V(NP)	
C 614	CEA2R2M50LS2	C 303 304 305 306 307 308	
C 617 618 619	CKSQYB473K50	C 309 310 311 312	
C 703 704	CFHSQ103J16	C 321 322	
C 707	CSZSR6R8M6R3	C 401	
C 710 712	CECV470M6R3	C 402	
C 713 715 717 718 719 720 751 872 953	CKSQYB473K50	C 403	
C 716	CSZSR01M35	C 404	
C 721 722	CCSQCH150J50	Display Unit	
C 723 757	CCSQCH150J50	Consists of	
C 724	CQEA104J63	•Control P.C.Board	
C 725	CSZSR100M6R3	•Driver P.C.Board	
C 726 727	CKSQYB473K50	Unit Number : CWM3455	
C 730 733	CCSQCH221J50	Unit Name : Display Unit	
C 734 735	CKSQYB473K50	MISCELLANEOUS	
C 752 863	CEA101M10LL	IC 1 2 3 4	
C 754 859 860	CEA100M16LS2	IC 5	
C 755 865 957	CEA0R1M50LS2	IC 901	
C 756 990	CKSQYB103K50	IC 902	
C 762 982 989 991	CEA100M16LS2	IC 903	
C 763	CEA220M16LL	IC 904	
C 764 861 862 871 986	CKSQYB103K50	IC 907	
C 765	CEA220M6R3LS2	IC 908	
C 766	CKSQYB102K50	IC 909	
C 767	CKSQYB102K50	Q 902	
C 853 854 855 856	CEWAR010M50	D 901 902 903 904	
C 857 858	CEA330M10LL	D 905 906 907 908 909 910 911 912 913 914	
C 878 879	CKSQYB471K50	D 915 916 917 918 919 920 921 922 923 924	
C 951	CKSQYB473K50	D 925 926 927 928	
C 959	CEKA331M10	L 901	
C 961	CEAS221M25	Inductor	
C 966 968 970	CEA470M10LL	L 902	
C 972	CEAS102M16	Inductor	
C 974 975	CEA220M6R3LS2	L 903	
C 977	CCL1023	Inductor	
		TH 901	
		X 901	
		S 901 902 903 904	
		Thermistor	
		Ceramic Resonator 8.00MHz	
		Switch	
		HSM123	
		HSM123	
		HSM123	
		HSM123	
		LCTA4R7K4532	
		LCTA150K4532	
		LCTB1R0K2125	
		CCX1011	
		CSS1107	
		CSG1043	

====Circuit Symbol & No. Part Name=====	Part No.
S 905 Switch	CSG1043
IL 907 Lamp 14V 40mA	CEL1150
VR 901 Semi-fixed 220Ω(B)	CCP1009
LCD(Display Cell)	CAW1189
LCD(Interference Cell)	CAW1190

EL CEL1323

RESISTORS

R 1 2 3 4 5 11	RS1/16S103J
R 6 7 8 9	RS1/2S222J
R 10	RS1/10S473J
R 12	RS1/16S473J
R 13 14 15 16 17 18 19 20 22	RS1/16S102J
R 21 67 68 69 70 71 72 73 79	RS1/16S511J
R 23 24 25 26 27 28 29 30 31 32	RS1/16S511J
R 33 34 35 36 37 38 39 40 41 46	RS1/16S511J
R 42	RN1/10SE823D
R 43	RN1/10SE393D
R 44	RN1/10SE203D
R 45	RN1/10SE103D
R 47	RS1/10S103J
R 48 49 50 51 52 53 54 55 56	RS1/16S511J
R 57 58 59 60 61 62 63 64 65 66	RS1/16S511J
R 74 75 76 77 78	RS1/16S0R0J
R 901 902 903 904 905 906 907 908 909 910	RS1/16S511J
R 911 912 914 915 916 917 918	RS1/16S511J
R 919	RS1/10S121J
R 920	RS1/10S2R2J
R 921	RN1/10SE512D
R 922	RN1/10SE303D
R 923	RN1/10SE163D
R 924	RN1/10SE472D
R 926	RN1/10SE682D
R 927 928 930 931	RN1/10SE301D
R 929	RN1/10SE152D
R 932 933 934 935 936 937	RS1/16S150J
R 938	RS1/10S333J
R 939 940	RS1/10S224J
R 942	RS1/16S0R0J
R 945	RS1/16S103J

CAPACITORS

C 1 3 10 13	CKSQYB473K50
C 2	CSZST470M6R3
C 4	CSZST150M20
C 5	CKSQYB103K25
C 6	CCSRCH151J50
C 7 9 11	CKSQYB473K50
C 901	CCSQCH200J50
C 902 903 904 905 906	CKSQYB104K25
C 907	CSZST470M6R3
C 910 911 912 913	CKSQYF104Z25
C 920 921 922 923 924 925 926	CKSQYF104Z25

Remote Control Assy

Consists of
 •Main P.C.Board
 •Switch P.C.Board(A)
 •Switch P.C.Board(B)
 •Connector P.C.Board

Unit Number : CWM3517
 Unit Name : Remote Control Assy

MISCELLANEOUS

IC 1	PD4448A
IC 2	S-80722AN-DK
Q 1 3	2SC4081
Q 2	2SD1664
Q 4	2SA1576

====Circuit Symbol & No. Part Name=====	Part No.
Q 5	2SC3295
D 1	SE303ARF
D 2	SIR-33ST
D 3	MA110-1A
D 5	HSM123

X 1	Ceramic Resonator 4.000MHz	CSG1068
S 1	Switch(DETACH SENSE)	CSN1011
S 2	Switch(BATTERY)	CSH1032
S 3 4 5 6	Switch	CSG1043
S 7 8 9 10	Switch	CSG1043
S 11 12	Switch	CSG1043
S 13 14 15 16	Switch	CSG1043
S 17 18 19 20	Switch	CSG1043
S 21 23 24	Switch	CSG1020
S 22	Switch	CSG1043

IL 1	Lamp 14V 40mA	CEL1297
IL 2 3	Lamp 14V 40mA	CEL1336

RESISTORS

R 1	RS1/10S474J
R 2	RS1/8S222J
R 3	RS1/10S820J
R 4	RS1/10S123J
R 5	RS1/8S2R2J
R 6	RS1/8S5R6J
R 7	RS1/10S103J
R 8	RS1/10S222J
R 9	RS1/10S472J
R 10	RS1/10S223J
R 11	RS1/10S102J
R 12 13	RS1/10S104J

CAPACITORS

C 1	CSZS4R7M6R3
C 2 3	CKSQYB104K16

Unit Number : CWR1045
 Unit Name : Power Supply Unit

MISCELLANEOUS

IC 100	TL1451ANS
Q 100 150	2SA1797
Q 101 151	2SC2812
Q 102 152	2SA1179
Q 103	2SA1179
Q 104 107 155	2SC2812
Q 105 153	2SC2812
Q 106 154	2SA1179
Q 1001	2SA1162
Q 1002	2SC2712
Q 1003	2SD1189
Q 1004	2SC2712
Q 1005	2SB1238
Q 1006	2SC2712
Q 1008	2SC2712
D 100 150	SC802-06
D 101 151 1006	MA110-1A
D 1001 1002	ERA15-02
D 1003	MA3082M
D 1004	MA3047H

L 100 101 102 150	Choke Coil	CTH1124
L 151 152	Choke Coil	CTH1124
L 1001	Choke Coil	CTH1076
EF1001 1002 1003		CCG1006
INV100	Inverter	CTX1040

====Circuit Symbol & No. Part Name===== Part No.

RESISTORS

R 100	150	RS1/10S122J
R 101	151	RS1/10S473J
R 102	152	RS1/4S681J
R 103	153	RS1/10S101J
R 104	154	RN1/10SE303D
R 105	161	RN1/10SE222D
R 106	156	RS1/10S104J
R 107	108 157 158	RN1/10SE103D
R 109		RS1/10S474J
R 110		RN1/10SE912D
R 111		RN1/10SE153D
R 112		RN1/10SE273D
R 113		RS1/10S101J
R 114	1001 1014	RS1/10S473J
R 115		RS1/10S223J
R 116	155	RN1/10SE362D
R 117		RS1/10S563J
R 118		RS1/10S563J
R 119	122 124 162 165	RS1/10S473J
R 120	121 123 163 164	RS1/10S223J
R 159		RS1/10S223J
R 180		RS1/10S222J
R 1002		RS1/10S472J
R 1003		RS1/4S681J
R 1004		RS2P100JL
R 1005	1010	RS1/8S473J
R 1006		RS1/8S222J
R 1009		RS1/10S103J
R 1011		RS1/8S473J
R 1015	1016	RS1/10S103J
R 1017	1018	RS1/10S103J

CAPACITORS

C 100	102 105 107	39μF/25V	CCH1162
C 150	152 155 157	39μF/25V	CCH1162
C 101	104 108 109 113 151 154 158		CKSQYB102K50
C 103	153		CCSQCH101J50
C 110			CEHAS010M50
C 111			CCSQCH221J50
C 112			CKSQYB104K25
C 114			CKSQYB222J50
C 1001		3300μF/16V	CCH1037
C 1002	1010		CKSYB473K16
C 1003	1013 1015		CKSYB473K16
C 1004	1005		CKSQYB103K50
C 1006			CEAS221M10
C 1007	1009 1011		CEA101M18LL
C 1012			CEA470M25LL
C 1014			CEA470M18LL
C 1016	1017 1018		CKCYF473Z50
C 1019			CEA3R3M50LL

Unit Number:

Unit Name: Switch P.C.Board(D)

S	1	Switch(CST SET)	CSN-089	
S	2	3	Switch(CST IN,70μS)	CSN1023
MR	1	2	Magnetic Resistive Device	DM-106B

Miscellaneous Parts List

S	25	Switch(DOOR OPEN/CLOSE)	CSN-078	
S	751	752	Switch(FLAP OPEN/CLOSE)	CSN1022
M	1	2	Motor Uint(HEAD,FF/REW)	CXA4577
M	3		Motor(HEAD)	CXM1084
M	751		Motor(FLAP)	CXM1085

====Circuit Symbol & No. Part Name===== Part No.

HD	1	Head Unit	CXA4587
IL	752	Lamp 14V 40mA	CEL1150

- The RS-K1/UC and RS-K1/ES Parts those enumerated in the RS-K1/EW Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly.
 - The Lists enumerate the parts those enumerated in the RS-K1/EW Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly.
 - The which differ those enumerated in the RS-K1/EW Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly.
- The RS-K1/EW Parts List is given on page 99.

•Audio Tuner Unit

Circuit Symbol & No.	RS-K1/EW	RS-K1/UC	RS-K1/ES
	Part No.	Part No.	Part No.
IC502	CWV1034	*****	*****
Q507	DTC124EK	*****	*****
Q516	2SC2712	*****	*****
Q517	DTC124EK	*****	*****
Q518	DTC144TK	*****	*****
D503	MA3047M	*****	*****
L503	LCYA2R2M3225	*****	*****
L506	LCYA4R7K3225	*****	*****
VR501	CCP1152	*****	*****
R540,541,542	RS1/10S102J	*****	*****
R543,547,548	RS1/10S102J	*****	*****
R545,551	RS1/10S104J	*****	*****
R546	RS1/10S472J	*****	*****
R549,550	RS1/10S102J	*****	*****
R552	RS1/10S103J	*****	*****
R553,570	RS1/10S473J	*****	*****
R555	RS1/10S222J	*****	*****
R556	RS1/8S151J	*****	*****
R567	RS1/10S102J	*****	*****
R572	*****	RS1/10S0R0J	RS1/10S0R0J
R637	*****	RS1/10S473J	*****
R638	RS1/10S473J	*****	RS1/10S473J
R639	RS1/10S473J	RS1/10S473J	*****
R640	*****	*****	RS1/10S473J
C512	CEAR47M50LS2	*****	*****
C516	CCSQCH101J50	*****	*****
C517	CEA4R7M35LS	*****	*****
C524	CKSQYB103K50	*****	*****
C527	CEA100M16LS2	*****	*****
C530	CSZSR22M35	*****	*****
FM/AM Unit	CWE1321	CWE1323	CWE1320

•FM/AM Unit

Circuit Symbol & No.	RS-K1/EW	RS-K1/UC	RS-K1/ES
	Part No.	Part No.	Part No.
Q51	DTC124EU	*****	*****
Q124	*****	*****	2SA1586
Q125	*****	*****	2SC4116
Q132	DTC124EU	DTC124EU	*****
CF52,53	CTF1193	CTF1247	CTF1247
L2	LCTBR12K2125	*****	*****
R11	*****	RS1/10S0R0J	RS1/10S0R0J
R60	RS1/16S473J	*****	*****
R101	RS1/10S331J	RS1/10S391J	RS1/10S391J
R120	*****	*****	RS1/16S684J
R129	RS1/16S184J	RS1/16S184J	RS1/16S104J
R132	RS1/16S0R0J	RS1/16S0R0J	*****
R133	*****	*****	RS1/16S333J
R134,138	*****	*****	RS1/16S0R0J
R136	*****	*****	RS1/16S563J
R137	RS1/16S223J	RS1/16S223J	*****
R139	*****	*****	RS1/16S472J
R140	*****	*****	RS1/16S103J
R141	*****	*****	RS1/16S334J
R142	RS1/16S473J	RS1/16S473J	RS1/16S0R0J
R151,152	RS1/16S332J	RS1/16S222J	RS1/16S222J
C101	CKSRYB682K50	CKSRYB332K50	CKSRYB332K50
C103	CKSQYB392K50	CKSQYB272K50	CKSQYB272K50
C112	CKSYB183K50	CKSYB333K25	CKSYB683K16
C125	CEV100M16	CEV100M16	*****
C126	*****	*****	CEV2R2M50
C127	CEV4R7M35	CEV4R7M35	*****
C132	CSZSR47M20	CSZSR47M20	*****
C151,152	CKSQYB183K25	CKSQYB393K25	CKSQYB393K25

•Remote Control Assy

Circuit Symbol & No.	RS-K1/EW	RS-K1/ES RS-K1/UC
	Part No.	Part No.
D4	MA110-1A	*****

13. CIRCUIT DESCRIPTION

13.1 A/D CONVERTER SECTION

● As concerns the 18-bit A/D converter (IC701: AK5369-VS)

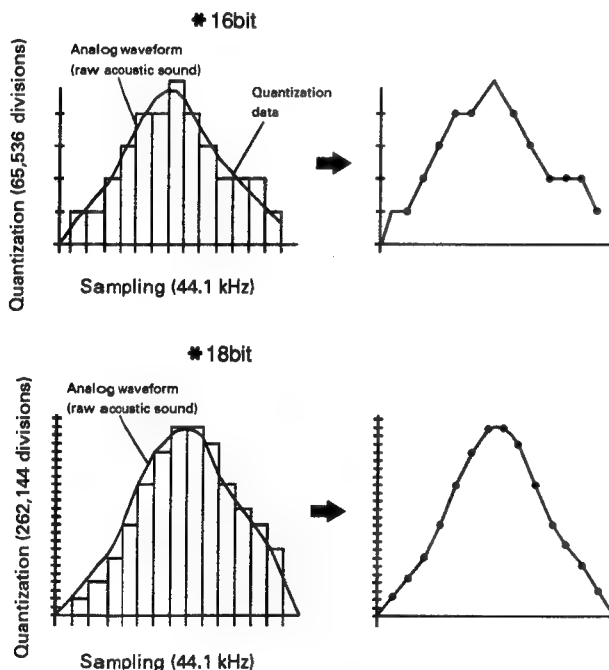
The difference in performance when compared with the formerly used 16-bit A/D converter is shown below:

$$\text{16-bit A/D converter} = \frac{\text{FSR}}{2^{16}} = \frac{\text{FSR}}{65536}$$

$$\text{18-bit A/D converter} = \frac{\text{FSR}}{2^{18}} = \frac{\text{FSR}}{262144}$$

FSR (Full Scale Range) = Input voltage range

The above shows that the quantization for the 18-bit A/D converter is finer than that for the 16-bit A/D converter by about four times.



As indicated by the graphs shown above, the 18-bit A/D converter can produce sounds more similar to raw acoustic sound.

By data comparison, THD ($V_{in} = \pm FS$, $f = 1 \text{ kHz}$) for the 16-bit converter is 0.002% and THD for the 18-bit converter is 0.0015%. This also indicates that sounds gained by the 18-bit A/D converter is more similar to raw acoustic sound than those obtained using the 16-bit converter.

THD= Total Harmonic Distortion: ratio of effective values of signals to effective values of harmonic waves.

● AK5369-VK

AK5369-VK is a 2-channel A/D converter using the 4-degree $\Delta\Sigma$ method. It has two built-in $\Delta\Sigma$ -converters and allows simultaneous sampling of analog input signals at a sampling rate of 64 times (64 fs). Over-sampled data are decimated to 18-bit data of fs by a digital filter.

13.2 OPERATIONAL AMPLIFIER WITH A SWITCH (IC451, 452: BA3129F)

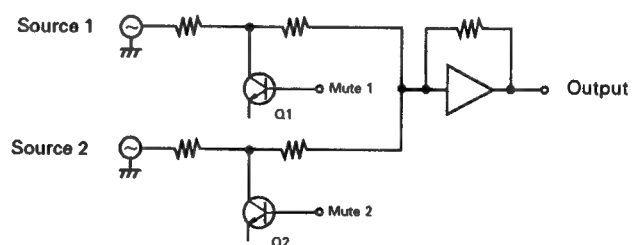
● Formerly used method

In the former type, switching of each source signal was done by using one of the following methods:

1. A resistance mixing method is applied by making use of operational amplifiers. Signal lines not being selected are muted by means of transistors.
2. Level setting for each signal line is done by using a discrete operational amplifier and then switching is done by an analog switch.

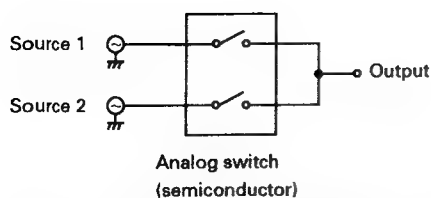
● Drawbacks of using the former methods

1. Signal lines not being selected must be muted. In most cases, muting means is provided by transistors. These transistors may cause distortion to grow.



2. The analog switch used for signal switching is a non-linear element. The distortion factor of this switch is poor and thus causes distortion to grow in a signal line.

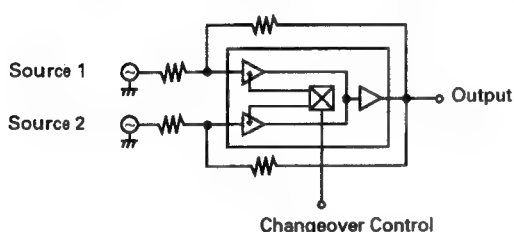
(Reference: THD for the analog switch (TC4066) is 0.1%.)



● **Advantages of the OPERATIONAL AMPLIFIER with a switch that is just adapted**

1. Because a switch is built in the amplifier, it is unnecessary to use a transistor for muting. This can prevent distortion from growing. Because a single operational amplifier is used for each source, level setting for each source can be done without affecting the sound quality.
2. The entire THD in the section of an operational amplifier plus a switch is 0.0015%, which is significantly better.

Also, the use of one chip IC per 1 channel (the former amp uses one chip IC per 2 channels) allows the power supply and ground to be separated per channel. This results in improvement in separation.



Operational amplifier with a switch for audio

Because the switch is contained in the NF loop, deterioration of the distortion factor is eliminated.

13.3 ± POWER SUPPLIES

● **Formerly used power supply**

A single power supply was used and setting of a supply voltage can be performed in the range of normally 0 to 8 V when used in a car. Thus, a dynamic range was determined within the above range. There was a limit in improvement in S/N.

The reference voltage that took the role of a temporary ground was needed. Signals were amplified relative to this reference voltage, and thus the reference voltage circuit had a large effect on the sound quality.

In addition, because signal lines coupling capacitors were needed, their effects were also present.

● **Power supply that is just adapted**

The use of both the plus and minus power supplies (± 8 V) increases, in principle, a dynamic range by 6 dB as compared with the former power supply, which results in improvement in S/N.

Moreover, because the reference voltage is unnecessary, signals are amplified truly relative to ground, and thus no deterioration occurs in the sound quality.

In addition, there is a possibility of deleting coupling capacitors, which may provide higher sound quality. All signal circuits in this unit are operated by the plus and minus power supplies, and there is no capacitors in the section from the head to EQ amp and in the section from MIX to A/D converter.

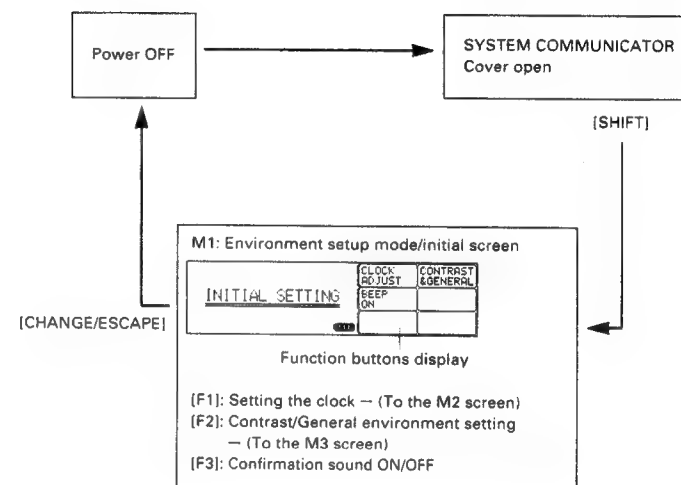
14. OPERATION AND CONNECTION

ODR System — Reference Manual —

- > This Reference Manual gives a simple explanation of the functions of the ODR System (mainly audio adjustment functions) by using charts of the display.
- > The Reference Manual explains the operations using the SYSTEM COMMUNICATOR.
- > The buttons inside the cover cannot be used, even if the cover is open, when the SYSTEM COMMUNICATOR is being used as a wireless remote control unit. To use these buttons, install the SYSTEM COMMUNICATOR to the base and use it as a wired system.
- > The names of the buttons to be used in operations are indicated inside parentheses []. (For example, Function button/3 is referred to as [F3].) For details on the names of buttons, please see "How to use this manual" (page iv) of the Owner's Manual.
- > Refer to the Owner's Manual for more details of the functions outlined in this manual.

Environment setup mode

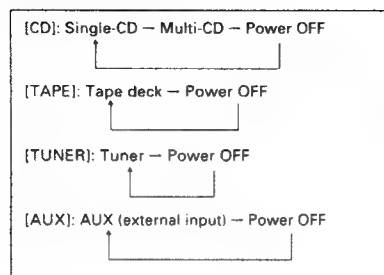
- > Use this mode to set the environment under which the ODR System is to be used.



- > [◀▶], [+/-] and [F] buttons to specify respective environment settings.
- > Operating the main unit allows the system to be changed to the environment setup mode even while the power is ON. (Hold down the SOURCE button of the main unit for at least 2 seconds after opening the cover of the SYSTEM COMMUNICATOR.)

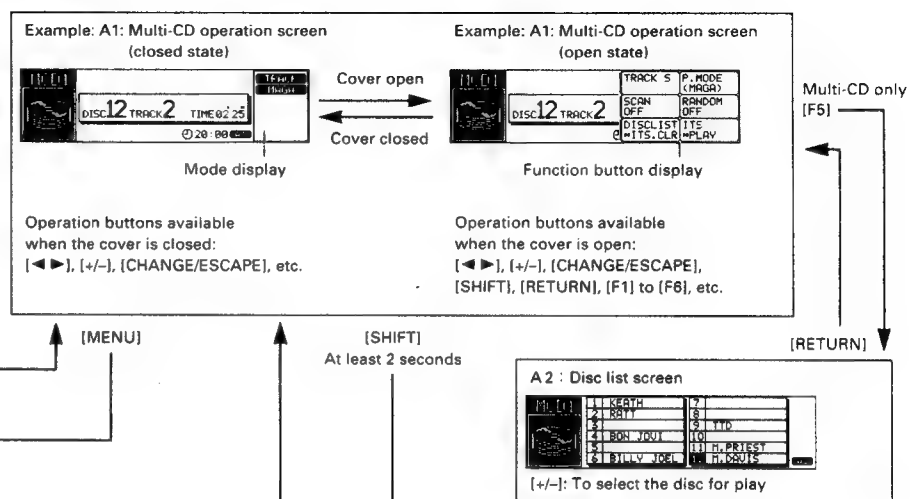
Common/source operations

Switching the source

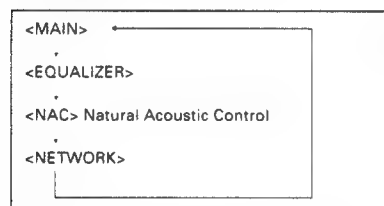


When listening the source

Sound source operations screens

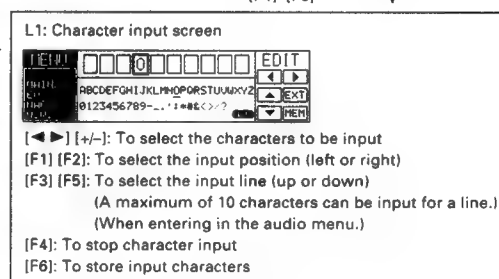


Switching the audio menu

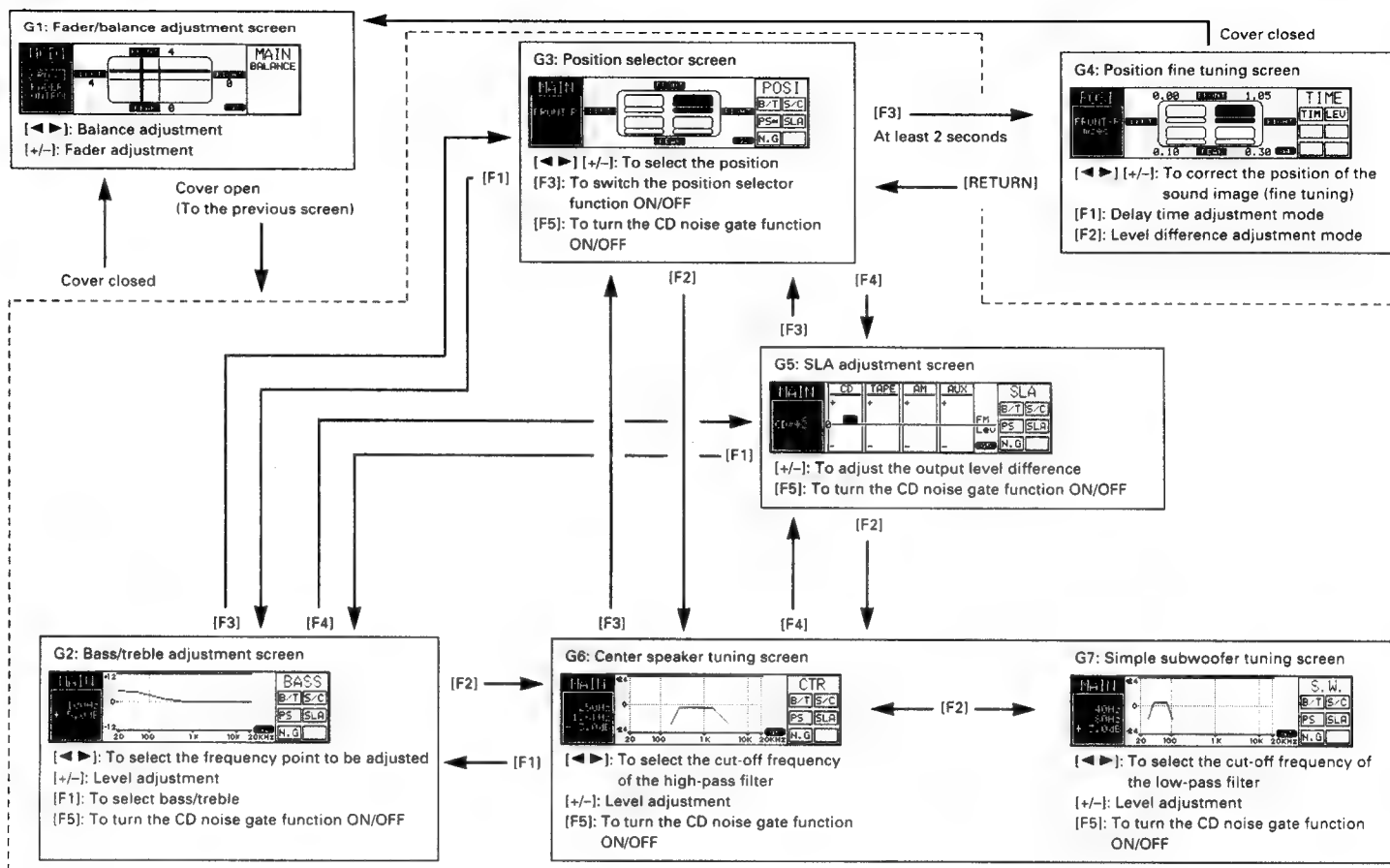


> See the explanations for the audio menu for more details.

[SHIFT]
At least 2 seconds



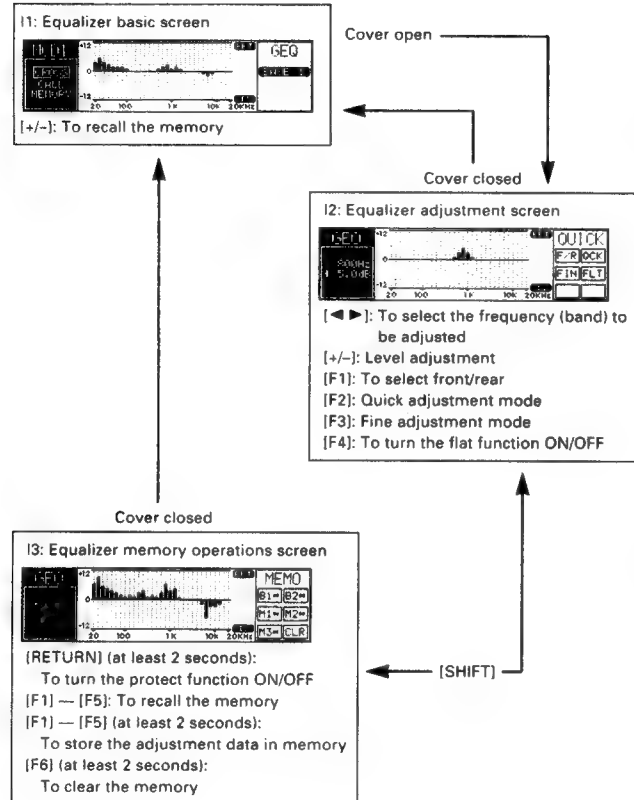
Main menu <MAIN>



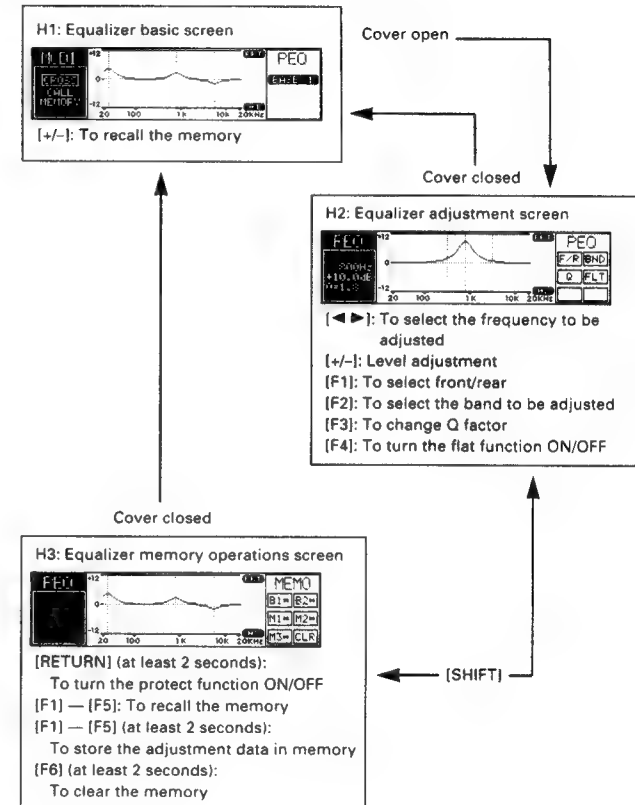
Equalizer menu <EQUALIZER>

Graphic equalizer

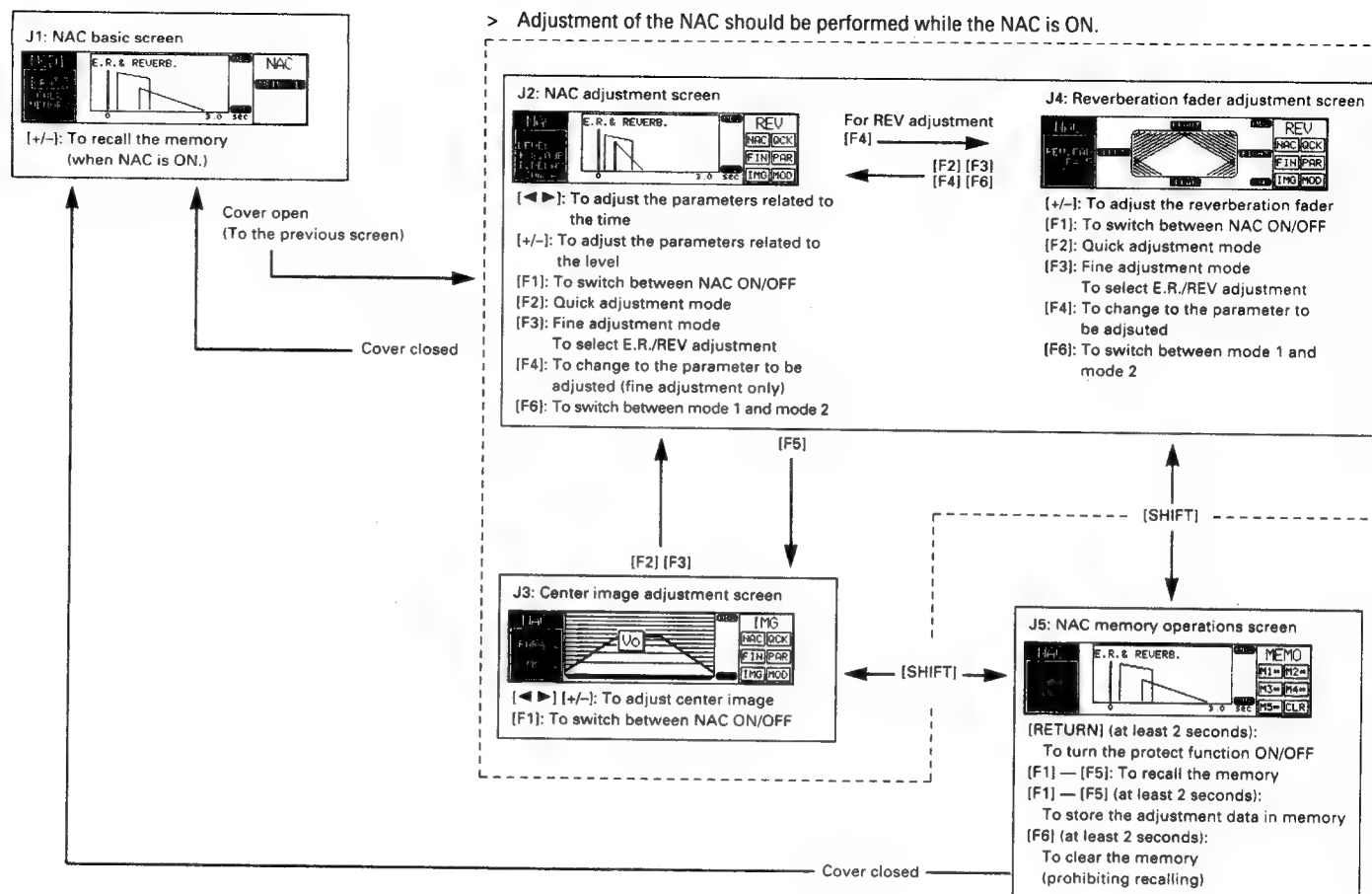
- > The illustrations below show examples of the 31 band graphic equalizer. The same operations can be performed with the 16 band graphic equalizer.



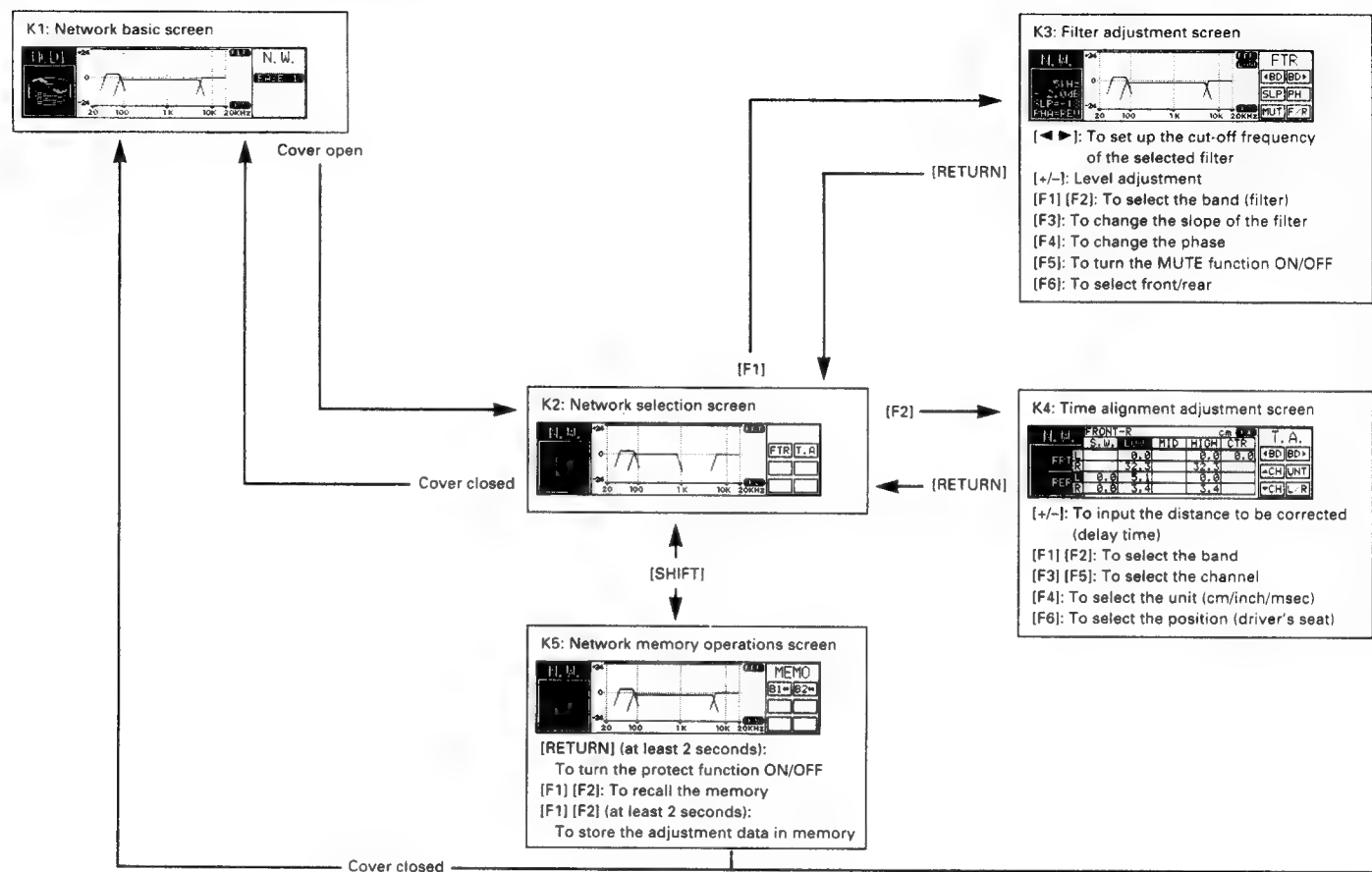
Parametric equalizer



Natural acoustic control menu <NAC>



Network menu <NETWORK>



Connecting the units



CAUTION

To prevent a short circuit

- Secure the wiring with cable clamps or adhesive tape. To protect the wiring, wrap adhesive tape around them where they lie against metal parts.
- Do not drill a hole into the engine compartment for an orange lead to the vehicle battery. Vibration may eventually wear through the insulation round the lead, resulting in a short circuit through the vehicle body.
- Do not route wires where they will get hot, for example where the heater will blow over them. If the insulation heats up, it may become damaged, resulting in a short circuit through the vehicle body.
- Make sure that wires will not foul moving parts of the vehicle, such as the gearshift, handbrake or seat sliding mechanism.



CAUTION

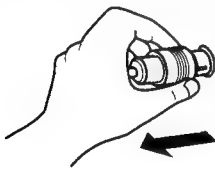
To avoid accidents

- Do not shorten any leads. If you do, the protection circuit may fail to work when it should.
- Never feed power to other equipment by cutting the insulation of the power supply lead of the unit and tapping into the lead. The current capacity of the lead will be exceeded, causing over heating.



To prevent damage

- Do not use the Digital Fiber Optic Cable CD-D60 and CD-D15, when using more than four optical cables in the entire ODR System. Otherwise no sound may be output.
- When disconnecting a connector, pull holding the connector itself. Do not pull the lead, as it may come away from the connector.
- When the unit is mounted in a vehicle whose ignition switch does not have the ACC (accessory) position as shown in Fig. 47, be sure to connect the red lead of the unit to the terminal controlled by the ignition switch ON/OFF position. If you do not, the vehicle battery may go flat when you leave your vehicle for several hours.



- Do not connect the red lead to power source terminals to which power is continuously supplied. If the lead is connected, the car battery may be overloaded.



Fig.46

ACC position

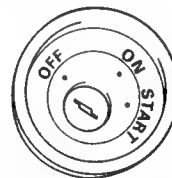


Fig.47

No ACC position



To prevent noise

- > Install the antenna cord as far as possible from the IP-BUS cable, speaker lead and power source lead.

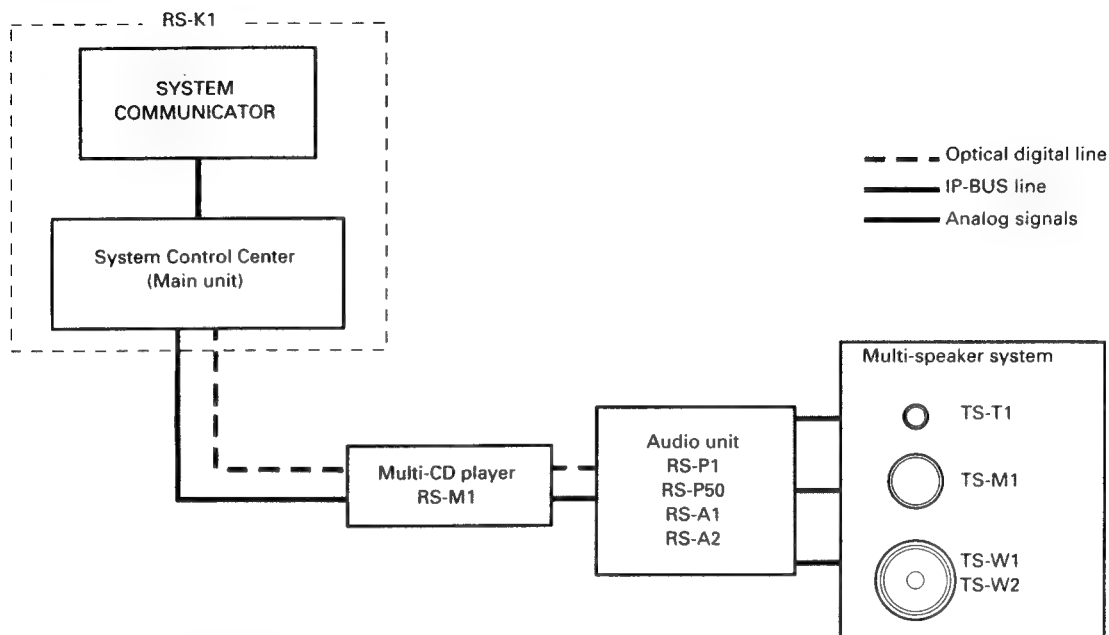
See the manual for each component in the system

- > Connect the components correctly by referring to the manual for each component.

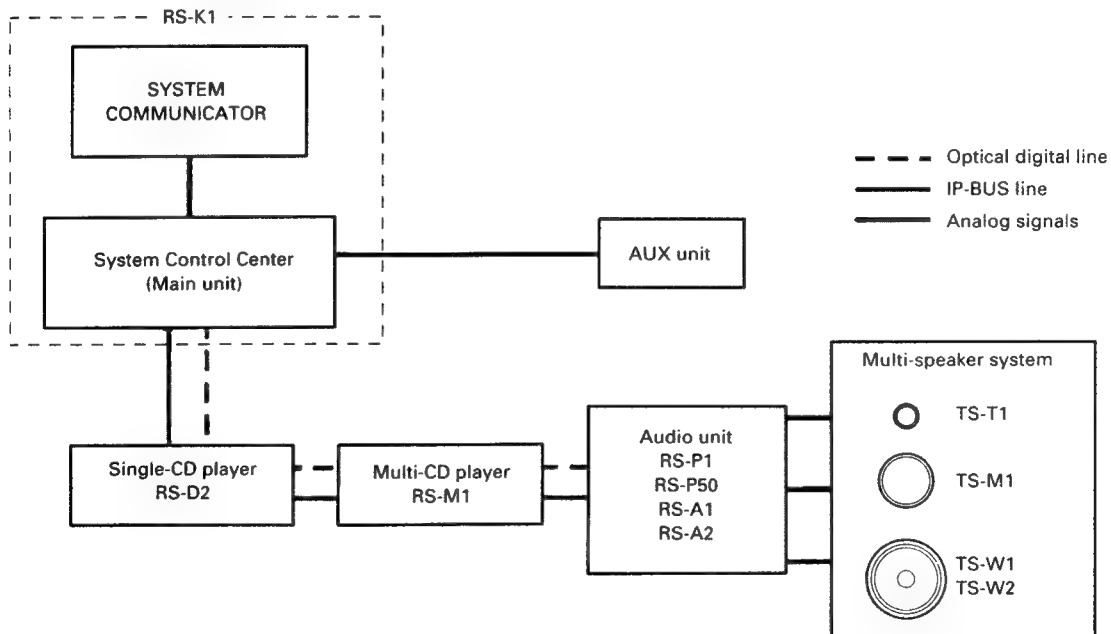
System block chart (outline)

The ODR system comprises the following units:

Example 1:



Example 2: Example 1 + AUX unit + single-CD player [RS-D2]



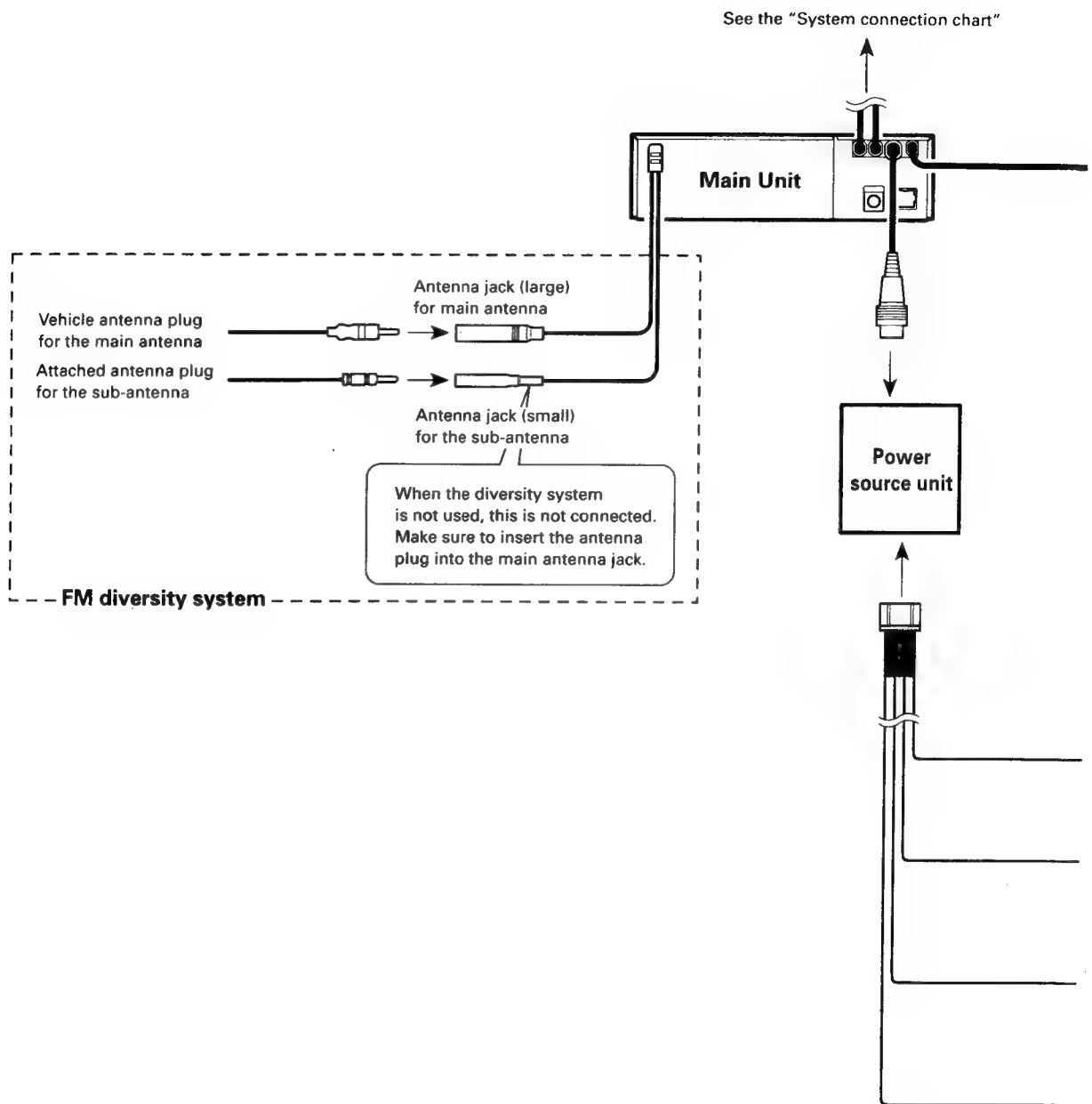
Connection of single-CD player RS-D2

> See the RS-D2 manual.

Connection of AUX unit

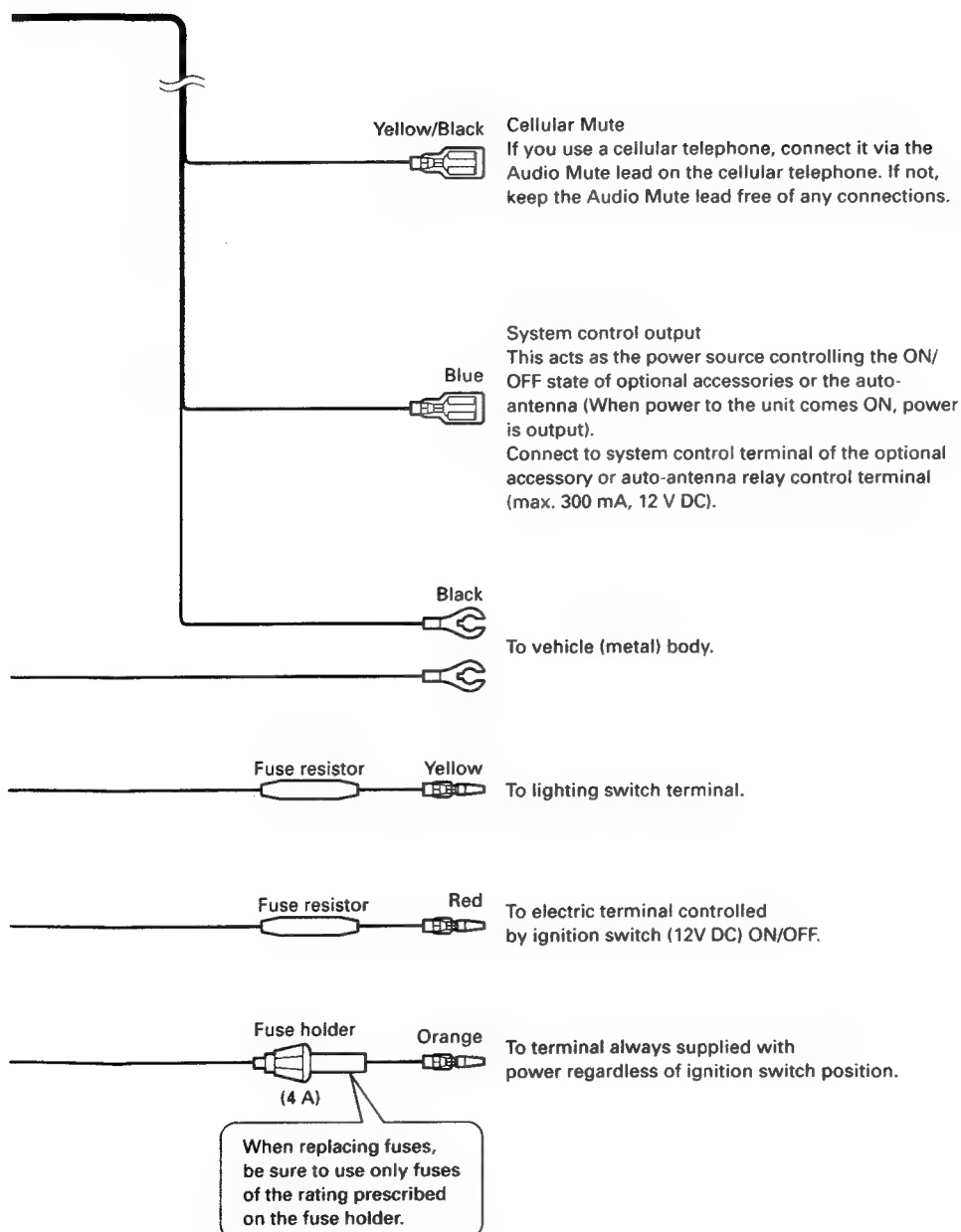
> When external units (video or DAT with RCA output) are connected, the RCA to IP-BUS interconnector CD-RB10, available as an optional extra, is needed to connect to the IP-BUS line.

Connection of power source lead/antenna lead

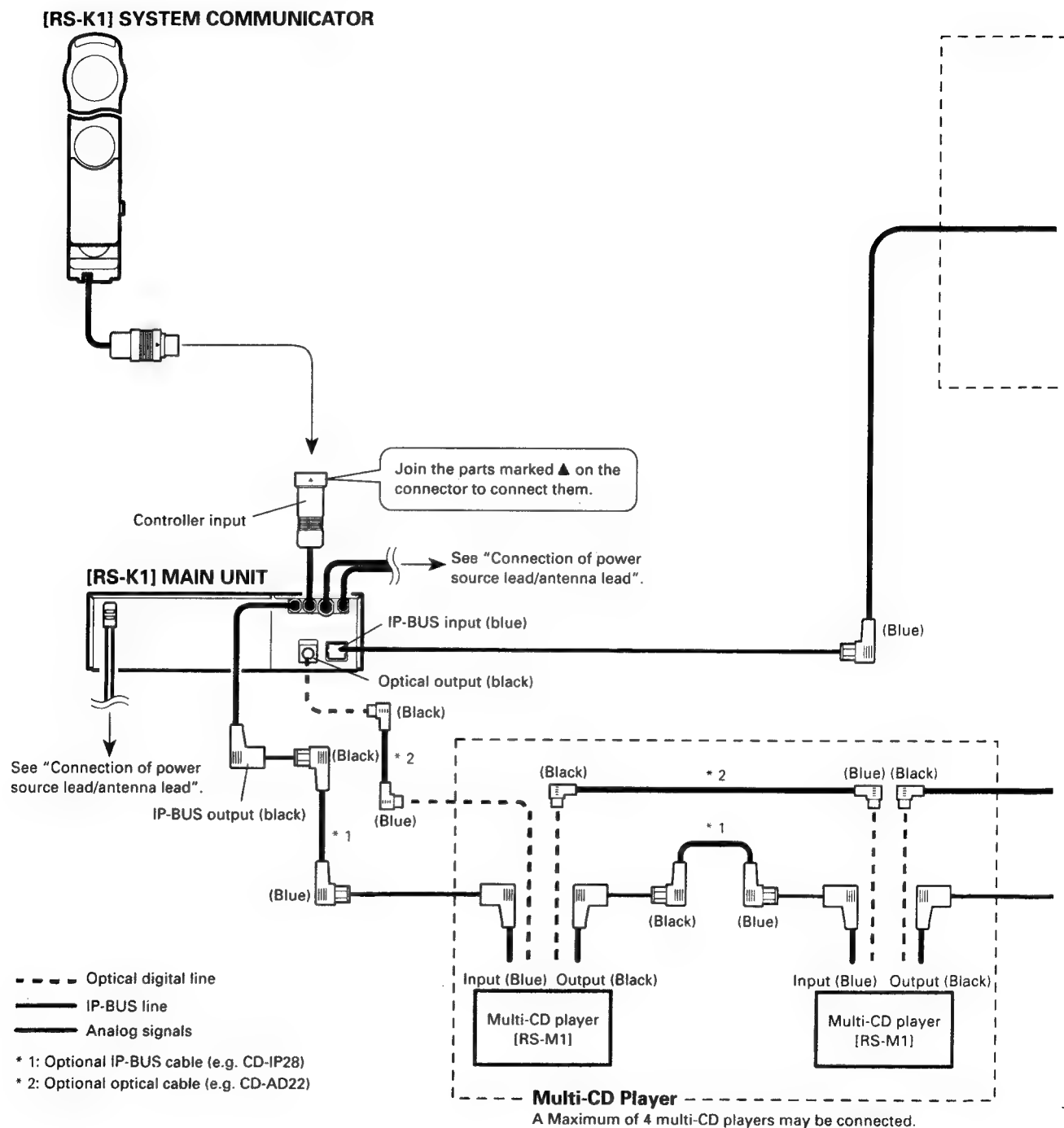


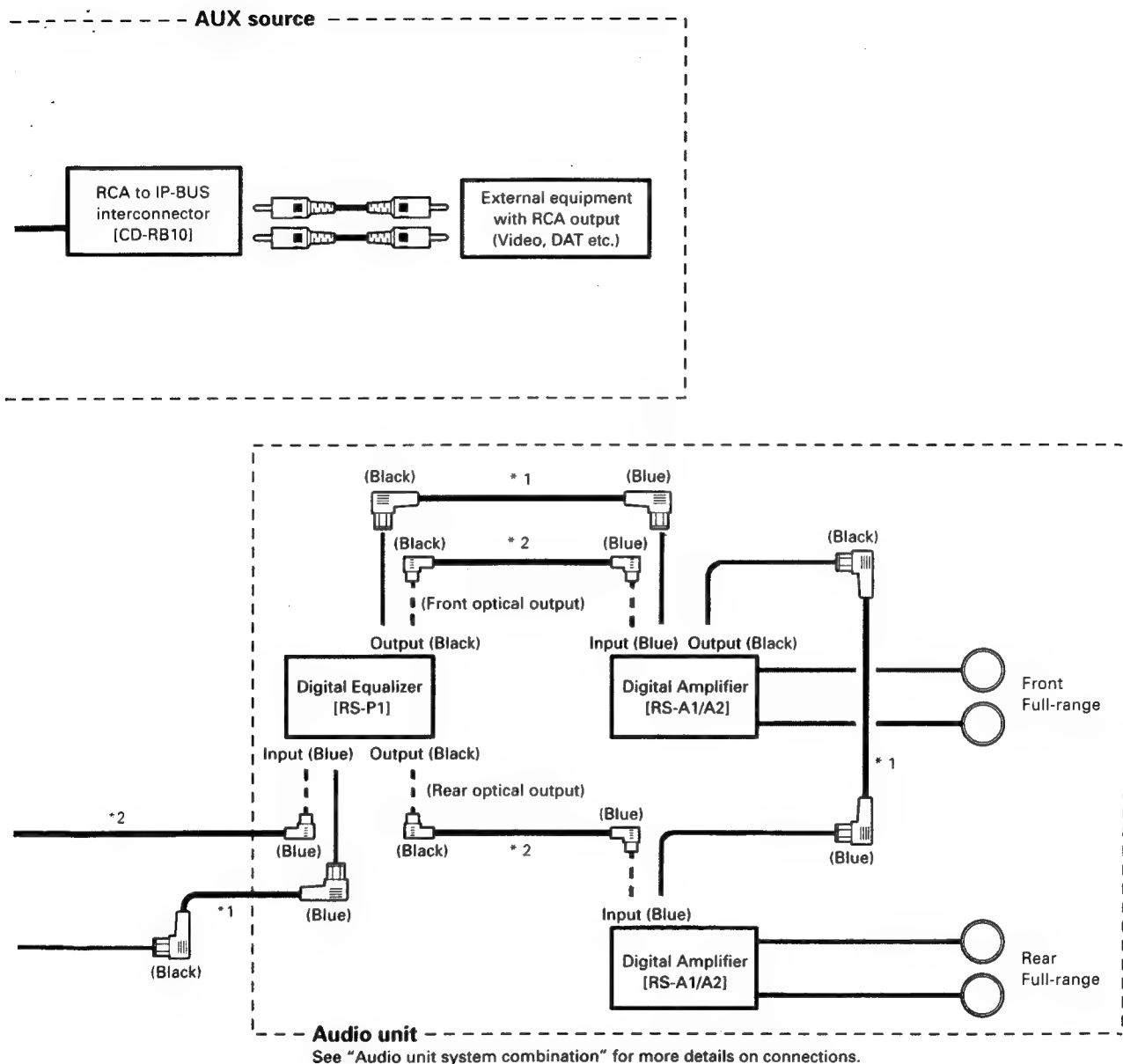
The FM diversity system

- > The FM diversity system receives FM broadcasts using two antennas. When reception through the main antenna is poor, the system automatically switches to the sub-antenna.
- > This unit responds to the FM diversity system. When the attached FM sub-antenna is used, switch ON the FM diversity setup.



System connection chart





Connecting the IP-BUS and optical digital line

- > The IP-BUS and optical digital line are connected by a cable, available as an optional extra, linking the output (black) terminal of the component connected in front and the input (blue) terminal of the component connected at the rear. This is essentially a series connection. (The optical digital line is separated into front and rear signals at RS-P1.)
- > Skip any product that is not being installed, and connect to the next one.
- > To prevent incorrect connection, the input side of the IP-BUS and optical digital line connector is colored in blue, and the output side in black. Connect the connectors of the same colors correctly. (The portions to be connected of the IP-BUS connector are colored.)

Audio unit system combination

❖ Points when setting up the ODR System

Address setup

The ODR System can connect more than one audio unit, such as Digital Equalizer, Digital Amplifier. Therefore, the address for identification (numbers 1 — 8) must be set up for the audio unit. Do this as follows:

- Set up addresses in such a manner that addresses will not overlap within the audio units.
- Memory control of the audio setup such as equalizer and network is conducted by the unit set to Address 1. Be sure to set the audio unit which is connected first to Address 1.
- The RS-P1 is fixed to Address 1. When there is an RS-P1 in the system, use Addresses 2 – 8 (randomly) for other audio units.
- When there is an RS-P50 but no RS-P1 in the system, set an RS-P50 to Address 1.
- > Only one RS-P1 can be connected to the ODR System.
Two RS-P50s can be connected to the ODR System.

Other setup

To set up the RS-P50 mode, as well as the RS-A1 and RS-A2 modes and faders, see the manuals for these products and carry out the setup depending on the combination of units in the system. Unless the setup for each component is carried out correctly, the ODR system will not function correctly.

❖ For better sound quality: restrictions on system configurations

Connecting digital amplifiers RS-A1 and RS-A2

- The RS-A1 is a sound-quality-oriented "Pure Class A" amplifier. Therefore, the power consumption will be approximately 5 A at low volume. To prevent overload to the battery, do not connect more than two RS-A1 units to the ODR system.
- To ensure better sound quality, it is recommended that the digital amplifier is connected in the following sequence: high, mid, low and subwoofer.

Using the center speaker

- Connect the center speaker to the Digital Equalizer's center speaker output assigned Address 1. No sound will be output if the speaker is connected to the center speaker output of the Digital Equalizer assigned either Address 2 or Address 3.

Using the subwoofer

- Connect the subwoofer to the front output.
- > The NAC features may modify low sound signals from the rear output in order to implement the user's adjustments of sound field mode, position selector and so on. For unmodified reproduction of low sounds, input front signals to the subwoofer.
- When the subwoofer is connected to an RS-P50 in NAC mode, it is recommended to set to the NAC HPF (NAC high pass filter mode).
- > When NAC HPF mode is set, the 100 Hz high pass filter affects only output from the front and rear. It reduces the effects on the front and rear amplifiers and speakers of the low sound signals from the subwoofer, and thus delivers a higher quality sound.

Using full-range speakers

- Network THRU mode of digital amplifiers RS-A1 and RS-A2 cannot be set up in the following instances.
 - > If either RS-P1 or RS-P50 is connected to the system.
 - > If other digital amplifiers in the audio system are connected to the network filter mode (other than THRU mode).
- When using speakers connected at full range in the system configurations specified above, set the digital amp to LOW (low-range) mode and adjust the filter characteristics using the network menu of the main unit.
- > If the speakers are normally used at full range, the network's filter features are not required. However, to obtain the highest quality sound from the center speaker and subwoofer, the filter functions of the network are needed. Therefore, if a center speaker or subwoofer is incorporated in the system, the digital amplifier cannot be set to the THRU mode, which bypasses the filter functions.
 - When using the speaker at full range with RS-P50 set up in network mode, switch to LOW output and adjust the filter characteristics.
 - > The frequency band reproduced in LOW mode (LOW output) can be varied from 25 Hz to 10 kHz by adjusting the filter cutoff frequency. Additionally, adjusting the slope (gradient of attenuation of the filter characteristics) allows the filter to be set to PASS and enables the speaker to be used at full range.

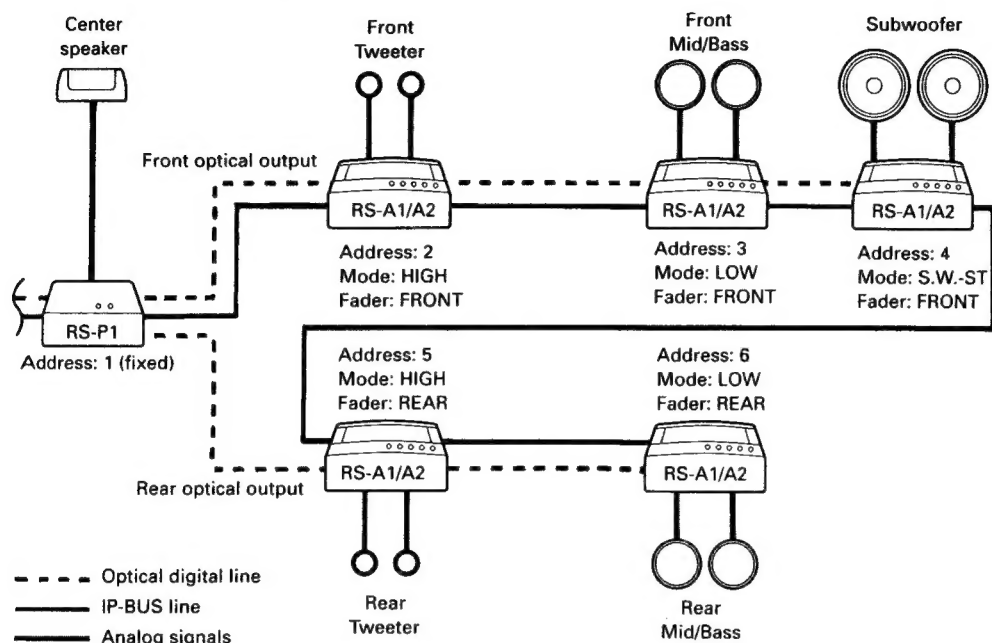
Using RS-P50 in NAC mode

- When another audio unit is connected to the optical output of an RS-P50 set up in NAC mode, the functions governing the timing of audio adjusting become restricted.
- > As RS-P50 enables connection of an analog amplifier, its specifications are somewhat different from those of fully digital equipment. Therefore, when RCA output (analog signals) and optical output (digital signals) of an RS-P50 set up in NAC mode are used simultaneously, there will be restrictions on the signal delay adjustments under the time alignment and position fine adjustment functions.

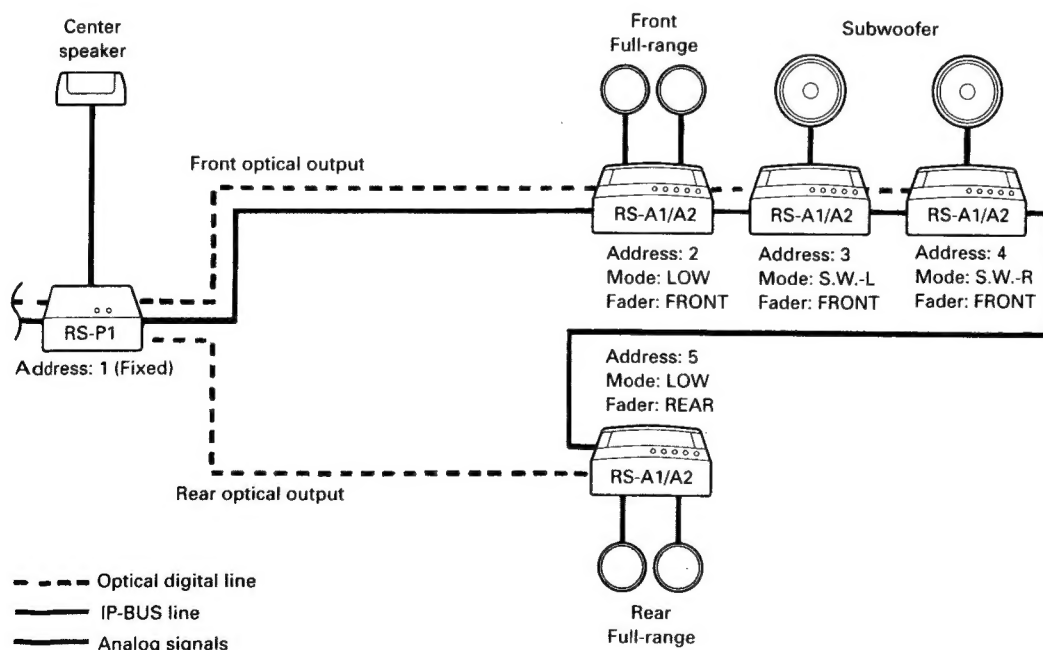
Examples of system configurations

❖ NAC + 31-Band graphic equalizer [RS-P1]

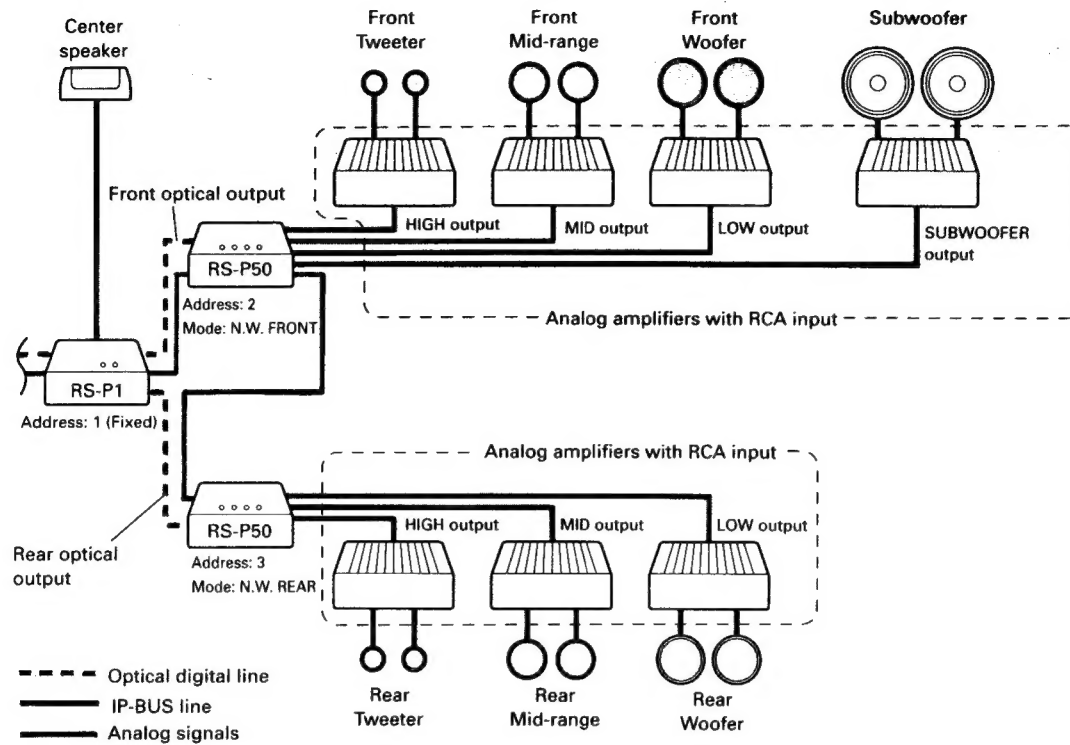
Example 1: Digital multi-amplifier system



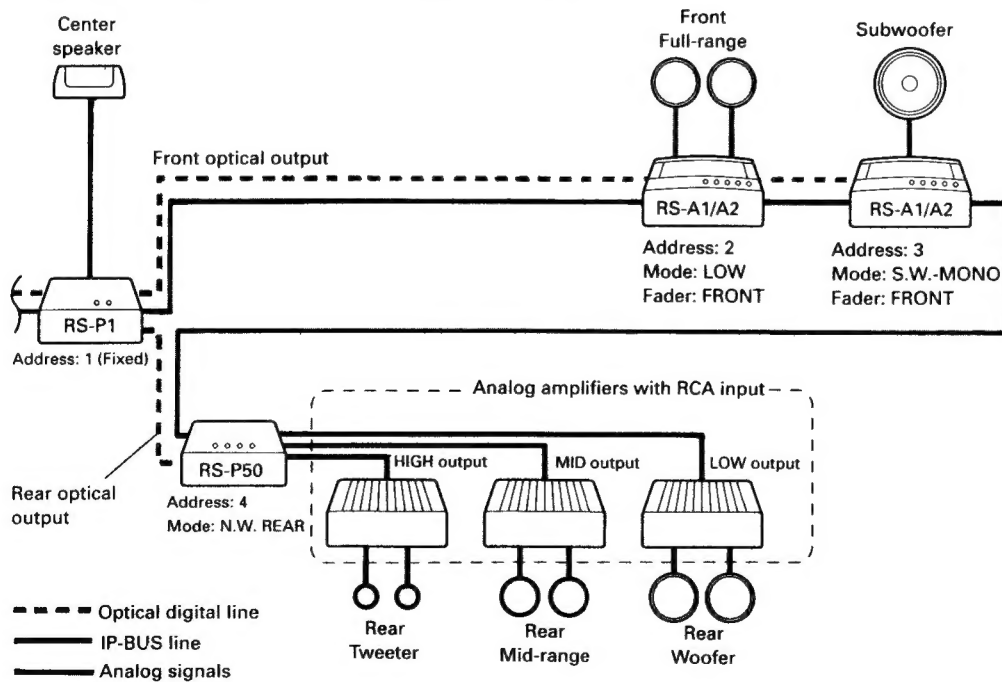
Example 2: Digital amplifier system

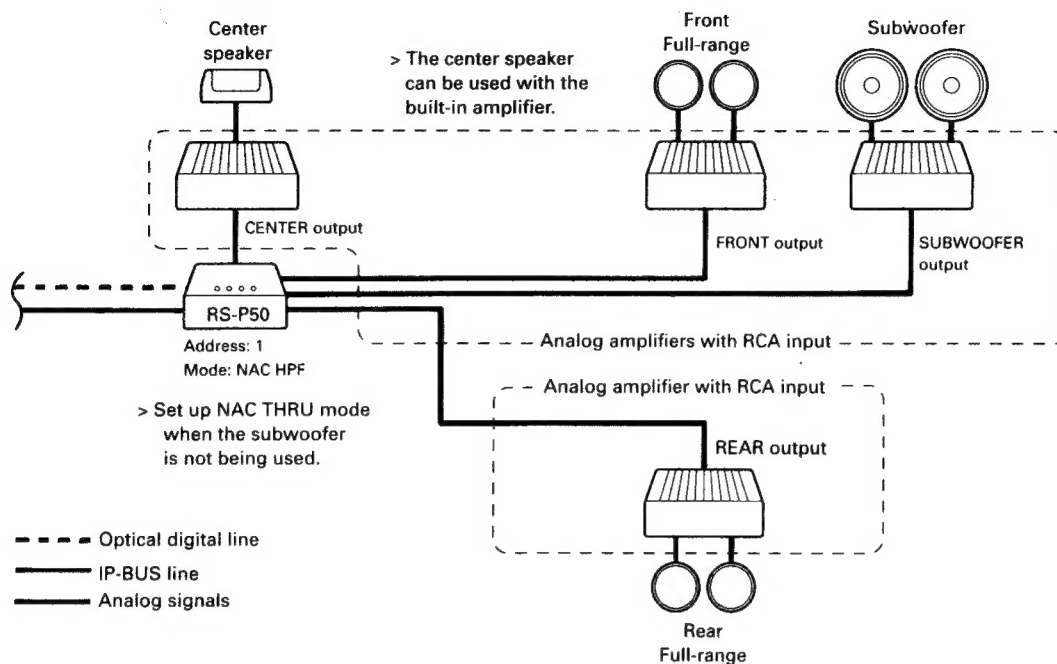
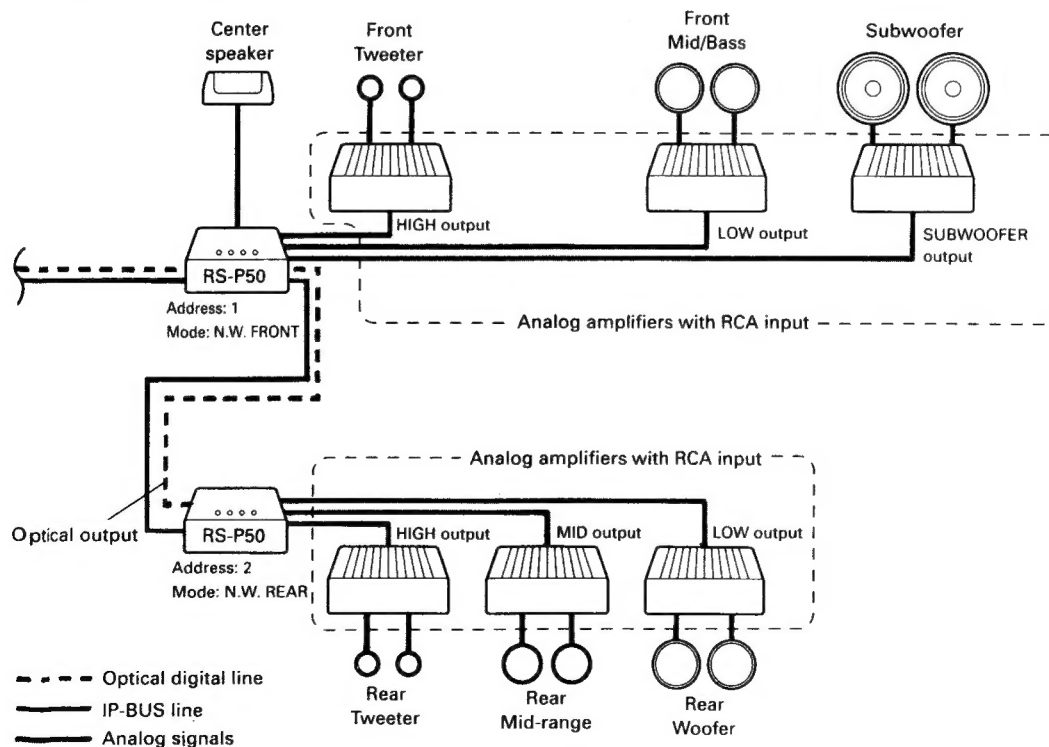


Example 3: Analog multi-amplifier system



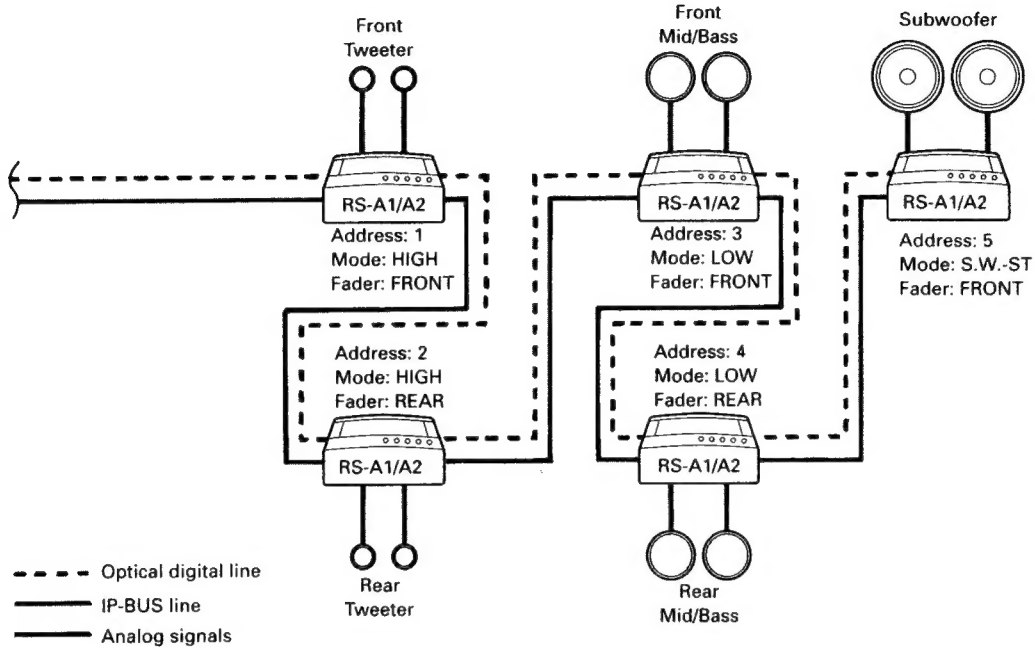
Example 4: Digital + analog multi-amplifier system



❖ **NAC + 16-Band graphic equalizer [RS-P50]****Example 5: Analog amplifier system**❖ **16-Band graphic equalizer [RS-P50]****Example 6: Analog multi-amplifier system**

❖ 3-Band parametric equalizer [RS-A1] [RS-A2]

Example 7: Digital multi-amplifier system



Example 8: Digital amplifier system

